CCJ

COMMERCIAL CAR JOURNAL

A CHILTON PUBLICATION

In This Issue

- How to Meet ICC Emergency Brake Proposals
- Clearing the Static from Mobile Radio
- Washo Road Test Conclusions

"Our fleet of 40 Dodge trucks has delivered the goods for us... under the roughest off-the-road conditions"

Says LOUIS KLINKOUSTEIN,
Treasurer, Reid Contracting Co., Inc.,
Woodbridge, New Jersey

"Our past experience has justified our selection of superior Dodge equipment, particularly in our latest project of adding an extra lane to both sides of the Jersey Turnpike.

"Our fleet of over 40 Dodge trucks—ranging from pick-ups to the real heavy jobs—has delivered the goods for us under the roughest off-the-road conditions. For example, we have never had a Dodge break an axle. And our emergency truck—a Dodge pick-up—has racked up over 100,000 miles in 6 months of 24-hours-a-day, seven-days-a-week service with practically no down time!

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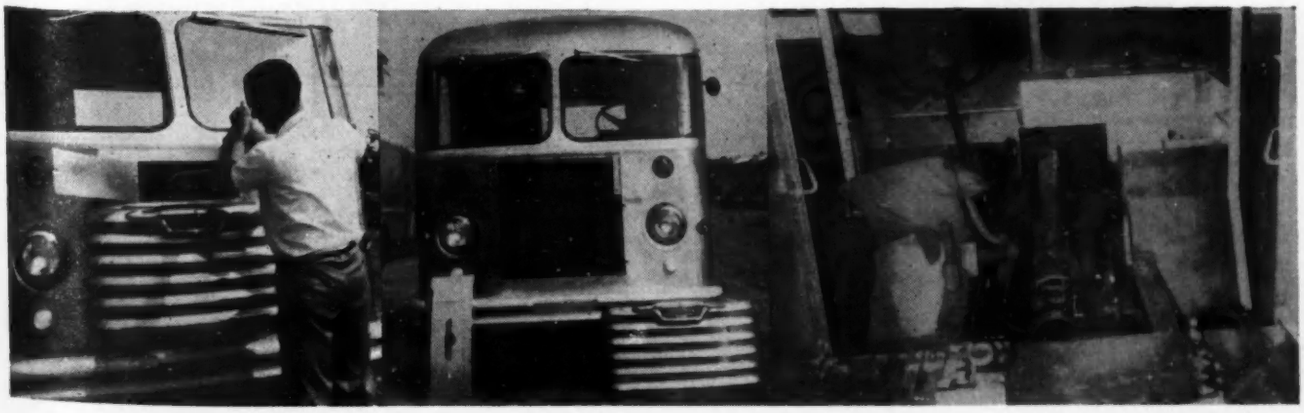

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THIS MONTH'S FEATURES

Clearing the "Static" from Mobile Radio.... 66
Special report highlights advantages of two-way radio use in fleets, cites reports from enthusiastic users on operating economies, says big problem is limited frequencies.

Maintenance Yardsticks for PM Efficiency... 69
Here's how bus men can figure their servicing and maintenance PARS, compare them with aTa's tentative standards.

Emergency Brakes—ICC Regs—Equipment.. 70
For your consideration, here are the new regulations designed to halt accidents due to brake failures. Included are descriptions and diagrams of equipment available in making braking systems meet the new requirements.

Air Force Model Shop Sets New PM Pace... 74
Maintenance equipment, methods, controls and records are tested here for effectiveness before being made SOP.

Trial by Instruments 76
From SAE's National Transportation Meeting in St. Louis, two bus fleetmen and two manufacturers describe the gages available and how they are used in time and money-saving precision checks for better maintenance and operation.

Modern Reindeer on Wheels 79
This year, over $60 billion worth of department store purchases will be delivered to the customer's home by truck.

The WASHO Road Test 80
Official report says most failures developed in underdesigned sections. Diagrams of test highway at close of tests show modern asphaltic roads will handle traffic.

You and Your Local Fleet Association..... 86
They provide a place to swap ideas, find answers to annoying maintenance problems, meet your fellow fleetmen.

DEPARTMENTS

ON THE COVER

Department store fleets this year will deliver to customers' homes over $60 billion worth of merchandise. Close to one-fourth of this total will be carried during the Christmas season. For this reason, it is fitting that we wish our readers a Merry Christmas by featuring these "Modern Reindeer on Wheels" in our cover story beginning on page 79.

The Overload 5
At Your Service 9
Up Front with CCJ..... 17
Dates and Doings 22
Bulletin Board 62
Laugh It Off 64
Shop Hints 82
New Product Descriptions 84

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COMMERCIAL CAR JOURNAL is published monthly by Chilton Co., N. W. Cor. Chestnut & 56th Sts., Philadelphia 39, Pa. Subscription price: United States and Possessions, $3.00 per year, all other countries $10.00 per year. Single copies 50¢, except Apr. and Nov.—$1.00. Accepted under controlled circulation at Philadelphia, Pa.

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JOURNAL

DECEMBER, 1955 VOLUME XC, No. 4
Copyright 1955 by Chilton Company (Inc.)

Index of 1955 Features 91
Listing the year's features under 14 subjects, making it easy to locate articles for re-reading or putting to work.

Studebaker for '56 94
New line has greater capacity springs for more payload.

Reo's New V-8 COE Tractors 96
Rated at 65,000 and 78,000 lb GCW, they have 63-in. cab.

GMC's Hydraulic Starter for Diesels 98

McLean Gets OK for Seven Trailerships 98

Dodge's Tractor with 96-in. Cab 98

White's 90-in. 9000 Series Tractor 100

Checker's New Cab Series 100

Hotpoint's Kitchen on Wheels 102

Gramm's Nailable Steel Flooring 102

Fleetman's Library 88

December News Roundup 104

New Truck Registrations 106

Introducing 136

Fleet Notes 146

Safety Awards 150

Factory Flashes 159

Among the States 160

Fleet Course Calendar 178

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Chestnut and 56th Streets, Philadelphia 39, Pa., U. S. A.

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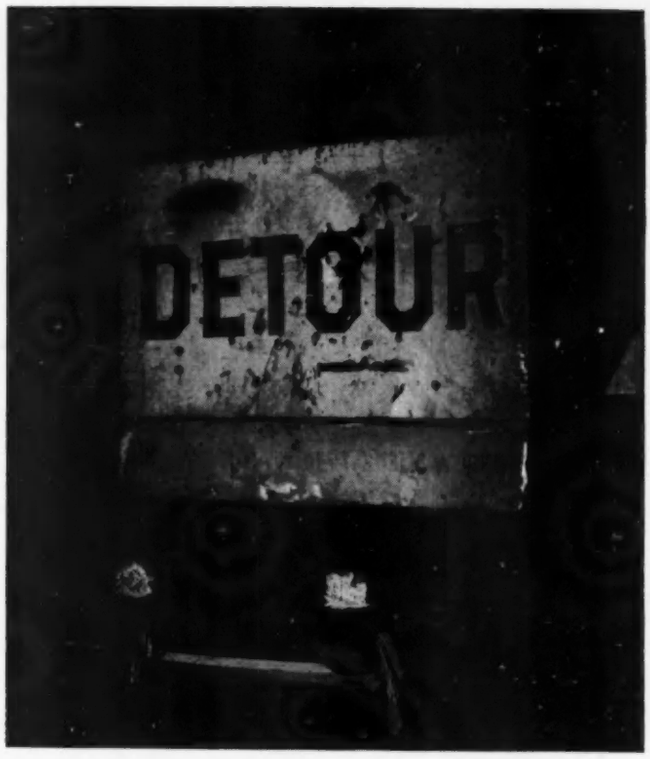

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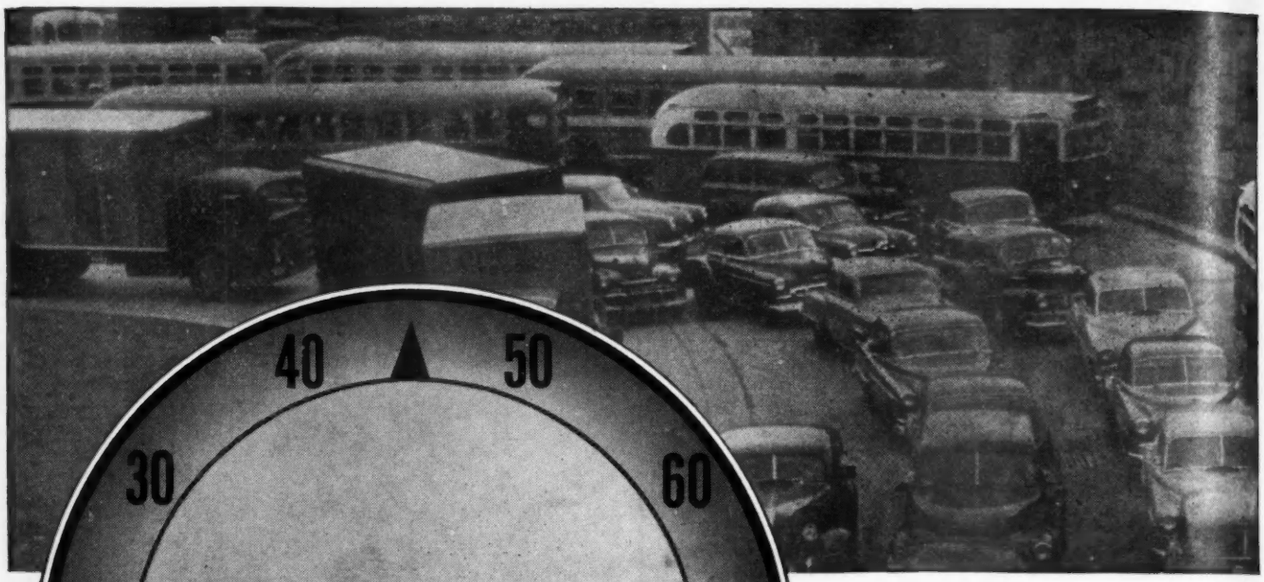

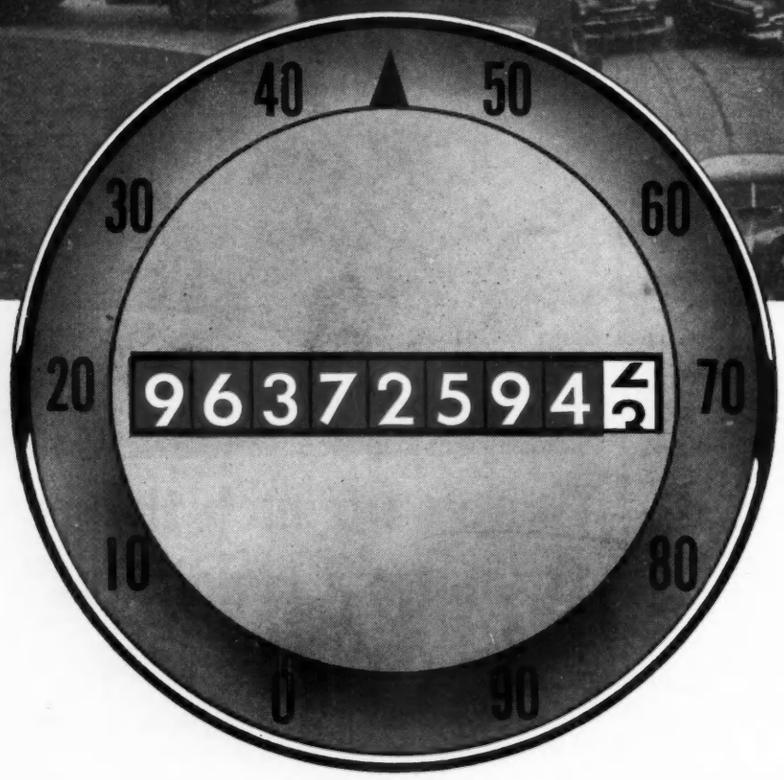

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The OVERLOAD

EDITORIAL COMMENT

Better Brakes, Better Industry

DESPITE opposition from some important circles, COMMERCIAL CAR JOURNAL finds itself generallly in whole-hearted support of the new ICC emergency brake proposals (see page 70). Of course there will be some specific complaints. Undoubtedly some adjustments will be necessary. But runaway truck accidents *must* be stopped. While good maintenance can theoretically do the job, it has not done so. More is needed.

Just how much more can be summarized in these figures. It has been estimated that at least 250,000 vehicle combinations will be affected before the end of 1956. There will be many more if state legislatures get into the act too. At a minimum averge of $100 per vehicle conversion, it works out to about $25 million.

That is, of course, a staggering figure. But so are the figures resulting from death and destruction as the result of the runaways. Let us hope that if serious opposition develops it will involve only the necessary specific, not just the fact that the plan costs too many dollars.

Government By the People

ONE OF THE most remarkable editorials of our time appeared in *Railway Age*, issue of Oct. 3. It deals with the Cabinet Committee Report which the railroads basically favor. We are fully aware of the dangers of quoting out of context. Nonetheless we believe the following two paragraphs fairly state the gist of *RA's* argument.

"In Canada and Britain they handle these complex issues more realistically. When such questions arise, the Government appoints a 'Royal Commission' of recognized experts to examine the facts and to recommend a solution. When a Royal Commission comes along with a definite report, Parliament usually enacts its recommendations into law with a minimum of debate and amendment. In 1954 a Royal Commission sat on the questions of 'agreed charges' by Canada's railways. This is a question just as complex, as controversial and as important as the questions dealt with in our Cabinet Committee's Report on Transportation. The Royal Commission presented its agreed charge report in February of this year and by June its recommendations were enacted into law by Parliament with only slight amendment."

There followed some supporting arguments to the effect that once the experts have made their decision, people should stay out of the act. Then came this closing paragraph:

"Courts of law frequently make mistakes. Nevertheless, few people would doubt that they offer a better means of settling disputes over property than by requiring the litigants to fight their case out with fists and firearms. We believe that respectable business opinion should support the Cabinet Committee Report on transportation —not necessarily because of agreement with the findings, but because it is sheer suicide for business, or any other group of conscientious citizens to fail to support the *method* by which these findings were arrived at."

Readers can draw their own conclusions as to why we chose these quotes. In the brief space remaining we'd just like to ask three questions:

Who instituted the Cabinet Committee Report?

Is there not a difference between the *facts* of a court case and the *opinions* of a Cabinet Committee?

Was there not once a long, lanky fellow who said that one of the great assets of America was that it had "goverment of the people, by the people and for the people?"

Bart Rawson
Editor

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At Your Service

TIMELY NOTES ON MAINTENANCE AND OPERATION

by **MURRAY SIMKINS** Managing Editor

About Fuel Injection

IN A PAPER on fuel injection presented before the SAE Fuels and Lubricants Meeting in Philadelphia last month, F. C. Mock and W. C. Suttle, of Bendix Products Div., Bendix Aviation Corp., saw more problems than advantages in direct injection as applied to high production passenger cars. It seems unlikely, they stated, that there will be any appreciable direct gain in fuel economy with injection, with the V-8 engine at least. Some indirect gain may result from use of higher compressions. . . . The gain from cylinder injection is unquestioned for racing cars and for long sustained duty at high mean effective pressures, but it seems unlikely that we will ever reach the triple objective of (a) good all-around, all-year-round operation, (b) on a "safety fuel" that will not ignite at atmospheric temperatures, (c) combined with the ability to burn all of the air charge in the cylinder, the engineers said.

Use of injection will not eliminate the need for excess fuel for starting nor the need for an equivalent for the automatic choke, they said. Eight cylinder V-8's already have good performance with the carburetor, it was stated, but hope to gain power at high speed. In this case, the cost of a new larger engine must be balanced against the increased cost of the present engine plus injection equipment.

Ten Steps in Vehicle Selection

ROBERT CASS of White Motor Co., in a paper presented before the Transportation Meeting of the Society of Automotive Engineers last month, outlined the following ten steps in intelligent vehicle selection. His suggestions bear emphasis here.

1. Make detailed study of the operation.

2. List the factors for and against the operation in terms of hardship in service, temperature, road conditions, terrain, etc.

3. Definitely place the trucks in the same light as any production tool in a well regulated manufacturing company.

4. Pay particular attention to component selection—not only of load carrying capacity of the rear axle but also the ratio to be selected.

5. Make a careful study of the engine size and take into account engine miles, in terms of piston velocity per unit mile of operation.

6. Study very carefully the transmission that goes with the engine selection so that the road speeds can be best fitted to the terrain and, again, engine miles reduced correspondingly.

7. Have a definite set of specifications agreed upon and signed by the truck manufacturing company representative to indicate that they in turn have analyzed the operation and are making definite recommendations against known facts.

8. Take advantage of the "standard times" that have been developed for maintenance operation and repair operation.

9. Study what special tools should be purchased on the basis of what is recommended by the manufacturer for the maximum reduction in maintenance time.

10. Thoroughly examine tire sizes in relation to their cost and their effect on some components such as engine and transmission.

Breaking-In an Engine

THE WORST way to break in a new car is to treat it too gently, and the best way is to drive as you normally do after the first 500 miles. This is the opinion expressed in a paper presented to the Northern California Section

(TURN TO NEXT PAGE, PLEASE)

CCJ At Your Service

Continued from Page 9

meeting, SAE, by lubrication specialists of the Socony Mobil Oil Co.

J. W. Lane, manager, Automotive Division, Socony Mobil's Lubricating Dept., and Leonard Raymond, chief automotive engineer, stated that "low-speed, start-stop driving . . . should be avoided during the break-in period," because it is the "most adverse type of operation in its effect on engine deposits and wear."

"All too frequently," they said, "it leads to persistent high oil consumption, poor fuel economy, loss of power and excessive blow-by due to rings which have not seated properly, and to other possible defects."

Noting that the most common complaint of the owners of new cars is high oil consumption, they remarked: "This is most frequently due to the fact that the owner has treated the car too gently during its early life and thus prevented proper break-in."

On Carburetor Icing

CARBURETOR icing has been the chief cause of automobile stalling during cold, damp weather within recent years, Gulf Oil research laboratories have established.

The conclusion results from a comprehensive road test program in which over 100 cars of all makes, using representative gasolines, were driven in cool season weather conditions.

The tests further confirmed that anti-carburetor icing additives, at present used only in the premium brands of several leading refiners, successfully combat the problem.

"Conk-outs" due to carburetor ice are all too familiar to most motorists, although many do not recognize the cause. These stalls usually occur in the first mile of driving, most often when the motorist first stops, idling his motor, at an intersection or in traffic.

The reason is that gasoline, when drawn into a cold carburetor, sucks heat from the air as it expands into vapor, exerting a refrigerating action on airborne moisture. This moisture falls on the throttle plate as a frosty ice, blocking air passages when the throttle is in idling position. Result: Air is cut off at idling speed and the motor dies. The condition is gradually overcome, after one or many stalls, as the carburetor warms up.

Under conditions most conducive to this happening, namely at temperatures from 35 deg F to 45 deg F and at humidities of 75 per cent upwards, the laboratories found that 55 per cent of all the cars tested stalled from carburetor icing when driven from a cold start.

F.A.B. Tandem Rear Axle

THE F.A.B. Mfg. Co. has made available to Studebaker dealers a tandem rear axle conversion on Studebaker E38 trucks to increase gvw rating from 16,000 to 29,000 lb.

The additional rear axle installed by F.A.B. Co. doubles the allowable payload and driving traction of the Studebaker E38 trucks. And, making the vehicle even more versatile, is a power selector that makes it possible to drive either or both of the rear axles. In addition to a 1:1 direct drive, there is an under drive ratio of 2.23:1 that gives 10 speeds forward with a five speed transmission, providing an extra low gear for difficult off-the-road driving.

Smog Report

THE AIR POLLUTION FOUNDATION says that the scientist and engineer have made definite strides toward reducing two of three major smog components—but work must be stepped up on the third and most difficult one of all—oxides of nitrogen. The invisible organic compounds, of which there are hundreds, react with oxides of nitrogen, under sunlight, to produce smog. The third type—the very fine airborne dusts—add to certain smog effects.

Not all answers have yet been found on the sources and possibilities of controlling either visible particles or organic compounds. The latter includes not only hydrocarbons, which is a huge family in itself, but also acids and aldehydes. Some come from petroleum products such as gasoline, lubricating oil and fuel oil. Others come from the burning of rubbish and evaporation of paint thinners and dry cleaning solvents. Auto exhaust control devices are presently aimed at reduction of part of the organics. Partial reduction of any one type, good as it is, in the opinion of the Foundation can hardly be expected to produce a revolutionary change in average smog conditions.

Plans are now being drawn up for a testing chamber, completely equipped with controls and instruments, by the Department of Engineering at the University of California at Los Angeles with the cooperation of the Air Pollution Control District and the Air Pollution Foundation. This chamber is intended to provide accurate and reliable information as to

(TURN TO PAGE 12, PLEASE)

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At Your Service

Continued from Page 10

the importance of various atmospheric pollutants and how much smog will be reduced or eliminated by any one or more of them.

The Foundation says certain probabilities stand out as types of remedies likely to prove successful.

(1) Control of domestic burning of rubbish by substituting cut-and-fill disposal until improved designs for municipal large-scale incinerators can be developed.

(2) Further control of airborne particles from industrial stacks must be attacked from two standpoints: improved combustion could eliminate organic mists, but particles of ash must be removed from stack gases by physical or chemical means. Both approaches need further research.

(3) Further control over hydrocarbon and solvent losses by evaporation means extension of vapor recovery or combustion control systems. Much engineering development will be required to develop economic equipment for this.

(4) An effective method still must be produced to control hydrocarbon emissions from internal combustion engines, but four areas show promise: fuel cutoff devices operating during deceleration, exhaust converters (catalytic or non-catalytic), fuel injection and improved maintenance.

Polyurethane Tires

AUTOMOBILE tires that may last two to three times as long as present tires, were among the possible developments in rubber technology outlined at the Diamond Jubilee annual meeting of The American Society of Mechanical Engineers. E. J. Joss, United States Rubber Co.'s Research and Development Dept., said that polyurethane rubbers will provide vastly superior abrasion- and tear-resistance once certain deficiencies have been worked out.

Other advances outlined by Mr. Joss included development of a synthetic rubber with

(TURN TO PAGE 14, PLEASE)

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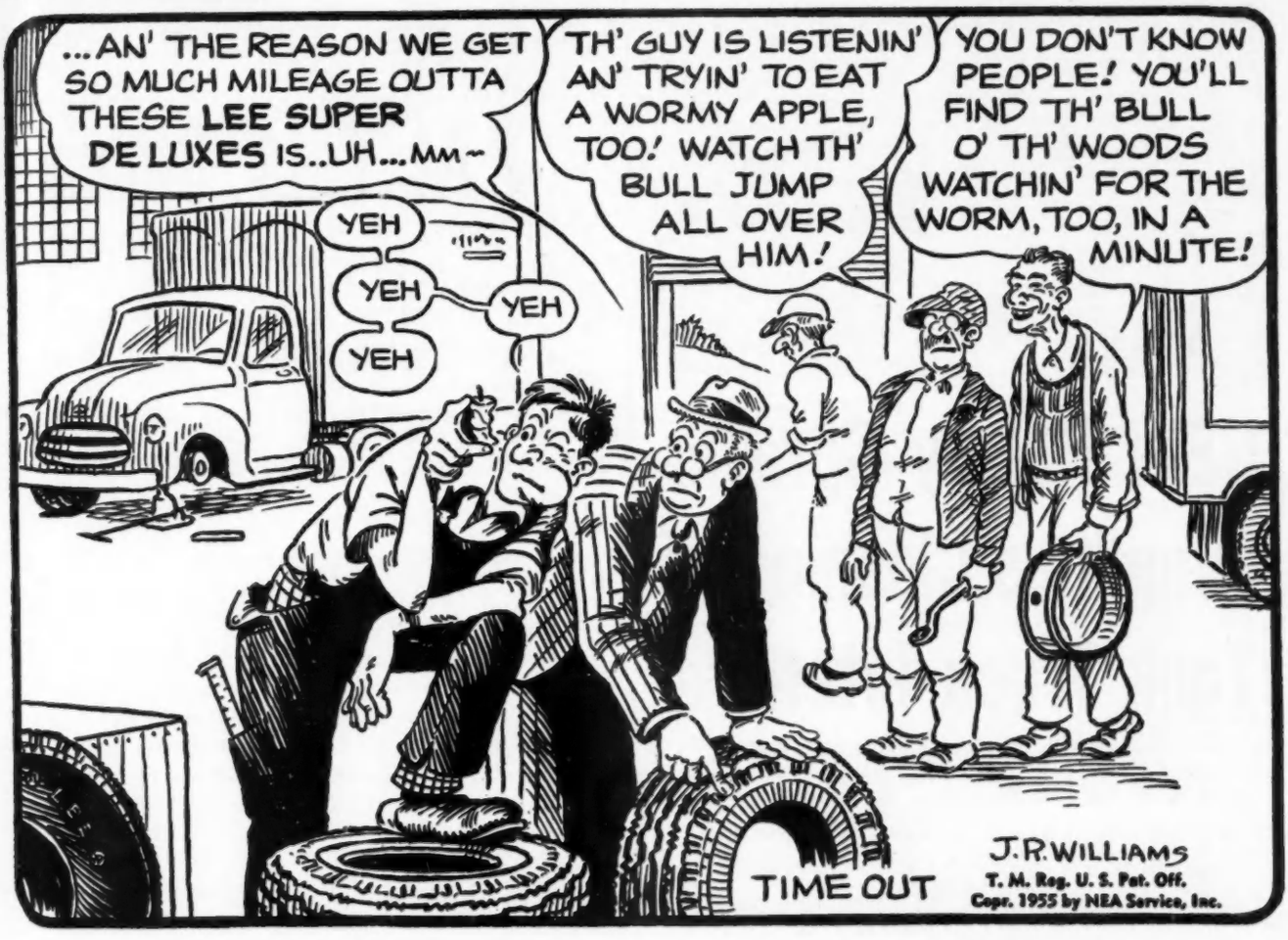
OUT OUR WAY **by J. R. Williams**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YEH
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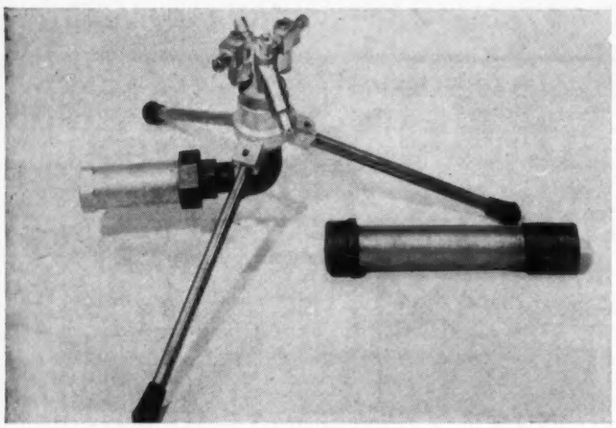
The complete Lee line, shown below, includes a tire which will lower *your* operating costs by giving longer life, more recaps. Let us prove it to you.

LEE RUBBER & TIRE CORPORATION **CONSHOHOCKEN, PA.**



NEW Rotary Sprayer Simplifies Cleaning of Tank Truck Interiors

NO NEED TO CRAWL inside hot, slippery foul-smelling tank trucks to brush and hose-rinse them clean. Now, with the Oakite Rotary Sprayer, you can cut cleaning time 75%; stop rinse water waste; reduce cleaning costs.

Revolving Solution-Sprays Clean and Rinse

The Oakite Rotary Sprayer consists of a small rotating head fitted with six wide-angled flat spray nozzles. It may be positioned on tank truck bottom, tripod supported. Or clamped to manhole and suspended from tank top. Cleaning and rinsing are accomplished by simple valve manipulation.

Send for Complete Information

All information, including low rental arrangement, plus helpful drawing and specification sheet gladly supplied FREE on request. Oakite Products, Inc., 26D Rector Street, New York 6, New York.

SPECIALIZED INDUSTRIAL CLEANING

OAKITE

REG. U. S. PAT. OFF.

MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. and Canada

CCJ At Your Service

Continued from Page 12

characteristics identical to those of natural rubber, and development of silicone rubbers that will remain flexible for 150 hours at 500 deg F, for use in aircraft applications and for insulation of high temperature service electrical wire.

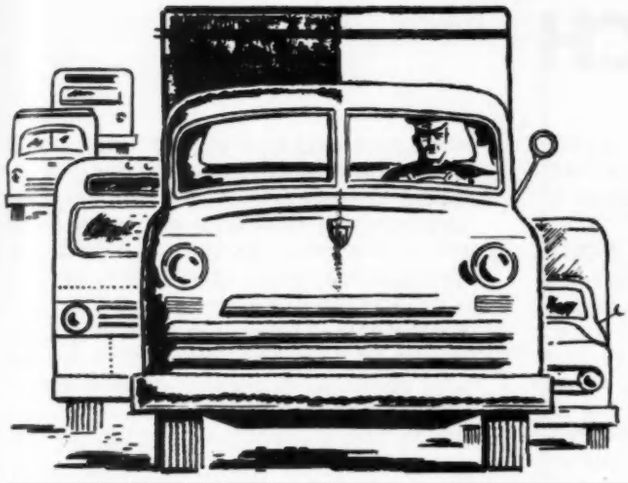
Spark Plug Fouling

SPARK PLUG fouling due to combustion products which collect on the plug's insulator can be basically classified as two types —carbon fouling and deposit-compound fouling. A carbon-fouled plug will normally miss throughout the engine's speed range. On the other hand, misfiring from deposit compounds will usually be encountered at high engine speeds or during acceleration in the middle-speed range.

Carbon deposits primarily tend to form during extensive low-speed, part-throttle operation of the engine, and are greatly aggravated by rich idle mixtures and excessive oil consumption. Under these conditions, the low temperature of the spark plugs promotes deposit formation of carbon produced when the fuel and lubricating oil are burned. Carbon fouling can be minimized by careful design of the piston and ring assembly and (in overhead valve engines) the valve mechanism, so that lubrication needs are met without excessive amounts of lube oil entering the combustion chamber.

Although the exact mechanism by which lubricants contribute to carbon fouling has not been established, tests show that commercial lubricating oils vary considerably in their deposit-forming characteristics. In this respect, the recently-introduced multigrade oils, such as SAE 10W-30, have proved superior to previous oils.

Carbon fouling has been reduced in modern engines through improvements in engine and spark plug design. These include improved control of oil passing the piston, improved carburetion and manifolding, careful attention to spark plug location, and the design of spark plugs to achieve better circulation of the gases and scavenging in the space between the insulator and the shell.—From Ethyl Technical Notes.



UP FRONT WITH ccj

DECEMBER, 1955, FLEET HIGHLIGHTS AS REPORTED BY COMMERCIAL CAR JOURNAL

MR. EXECUTIVE, Interstate Commerce Commission emergency brake regulations were announced middle of last month. Applying only to combinations, the regs require brake systems to be effective on all but one axle of the combination when failure occurs. Front axle brakes on the tractor are not included in the new safety rules. For new vehicles, the effective date is Sept. 30, 1956, and all vehicles must comply by March 31, 1957. Interested parties have until Jan. 3, 1956, to file written protest with the ICC. Full text of the new regs, comment and analysis of presently available emergency braking equipment begins on page 70, this issue.

NEW EQUIPMENT will be on exhibit at two ATA council meetings in the spring. Meeting in Detroit, April 29-May 3, the Operations Council will have on display trucks, tractors and trailers at a local terminal with exhibits of smaller equipment at the Sheraton-Cadillac Hotel. The Equipment and Maintenance Council plans an "American Trucking Equipment Exposition" at its joint meeting with the Council of Safety Supervisors, May 8-11 in Chicago. On exhibit in addition to vehicles, according to the announcement, will be shop equipment, vehicle parts and components and reefer equipment.

HIGHWAY PLANS for next year will need careful watching. Major General Frank D. Merrill, New Hampshire highway boss, says there may be as many as 30 highway bills introduced into Congress next month. Warns ATA President C. J. Williams, the railroads will work behind the scenes to add heavy taxes for large trucks. If such a bill passes, says Williams, ". . . trucks will be saddled with exorbitant taxes, and if the trucking industry has to put up a big fight to kill the bill because of high taxes, we will discredit ourselves." Secretary of Commerce Weeks says the administration still favors bond issue financing but would accept a pay-as-you-go measure.

PUBLIC RELATIONS advertising for the truck-industry coordinated through the ATA Foundation totaled over a million dollars worth in the two years of the Foundation's existence. Current support by allied industries is about $550,000 annually. Firestone Tire & Rubber Co., General Tire & Rubber Co. and International Harvester Co. recently renewed their support pledges. Members of the Foundation, in addition to these three companies, are Fruehauf Trailer Co., Trailmobile, Inc., Dayton Rubber Co., Great Dane Trailers, Dodge Division, Chrysler Corp., Thermo King, White Motor Co., Goodyear Tire & Rubber Co., B. F. Goodrich Co. and United States Rubber Co.

DETROIT DISPATCH

SEAT BELTS FOR over-the-road tractors have been adopted by Roadway Express, first large truck fleet to do so.

AUTOMATIC TRANSMISSION COSTS MAY be cut somewhat with development of a new oil. Vehicle makers and oil companies are working on a new type "C" oil for automatic drives, basically a good grade mineral oil similar in specification to 2104-B used by the military in both engines and automatic transmissions. New oil, it is reported, would be considerably cheaper than special oils now in use.

ENGINE POWER LOSS THROUGH accessories which are in constant operation regardless of need are getting attention from truck builders. Engineers look for considerable savings if such items as generators, air compressors, fans and hydraulic pumps could be disengaged when not in useful operation. Thermatic fan drives are one answer, and real progress in at least one of the components mentioned can be expected before spring, say reports.

FRUEHAUF Trailer Co. has acquired Hobbs Mfg. Co. The Texas trailer maker will continue operation as the Fruehauf-Hobbs division of Fruehauf. Plans are to add a 200,000 sq ft plant to the present facilities.

SYNTHETIC RUBBER WITH properties similar to natural rubber is announced by Goodyear Tire & Rubber Co., following announcement of a similar product by Goodrich (Aug., page 18) and Firestone (Sept., page 18). All three have yet to be put into commercial production.

WASHINGTON RUNAROUND

LEASING REGS AFFECTING duration and compensation of leases will go into effect March 1, 1956, instead of first of this month as announced earlier by ICC (Nov., page 18). Reason given by the Commission for the postponement was the number of carrier requests. Some Washington sources feel that the exemptions reported last month will result in defeat of pending legislation to bar regulation of duration and compensation of vehicle leases by the ICC.

TRUCK TONNAGE IS up 14 per cent for the first three quarters this year as compared to the same period last year, according to ATA's Research Dept. Based on a special survey of about 1/3 of all Class 1 inter-city common carriers of general freight, the report shows September tonnage up 17 per cent over September, 1954, and up 1.2 per cent over August, 1955.

ICC SHOULD FIND that private truck operators are entitled to a just and reasonable allowance when they provide the trailer and pick-up and delivery service in connection with a captive piggyback movement, says the Private Truck Council of America. The request is made in the Council's petition to the ICC for reconsideration of the findings in I&S Docket No. 6340 (Sept., page 19) wherein a proposal by the Chicago & Eastern Illinois Railroad to give an 18½¢ per cwt allowance was turned down by ICC's Division 2.

PIGGY-BACK VOLUME OF motor common carrier trailers handled by Rail-Trailer Corp. over the Pennsylvania Railroad reached 3394 trailers in October, more than double the earlier announced record of 1583 trailers in August.

INVESTIGATION OF truck accidents by both the House and Senate Interstate Commerce Committees is likely, say "reliable" reports. However, a check made with staff personnel of both committees middle of last month disclosed no current plans to conduct a probe.

McLEAN RECEIVED last month an "approval in principle" from the Maritime Administration for his proposed trailer-ship operation on the Atlantic Coast. (See page 98, this issue, for details.)

FEDERAL TRUCK WILL produce a "Styline" series in the medium duty field in addition to its "Golden Eagle" series (May, page 100). Styline capacities range from two to five ton with GVW rating from 19,000 to 38,000 lb. Diesel engines will be available in the line.

WHITE MOTOR CO. HAS stirred up a lot of speculation with announcement of an agreement to buy Diamond T. The deal is subject to approval by Dept. of Justice and Diamond T stockholders. Bohn Aluminum & Brass, owner of Reo and 12 per cent of Diamond T stock, says White's offer of $8.6 million is $3 to $4 million under book value. Bohn may be interested in buying Diamond T itself for its dealer organization, as a customer for Reo engines, tilt-cab design and other assets.

HIGHWAY TAXES

Comparison of Provisions

	Gas (per gal)	Diesel Fuel (per gal)	Trucks, Buses and Trailers (On Mfrs. list price)	Tires			Camelback[1] (per lb)	Inner Tubes[2] (per lb)
				7.25-8.50 (per lb)	Over 8.50 (per lb)	Other (per lb)		
Present rates	2¢	2¢	8%	5¢	5¢	5¢	.....	9¢
H. R. 7072[3]	3¢	6¢	.....	.....	50¢	.....	20¢	50¢
H. R. 7474[3]	3¢	4¢	10%	8¢	15¢	5¢	15¢	15¢
H.R. 7720[4]	2⅝¢	3¢	10%	8¢	10¢	5¢	.....	10¢
H.R. 7669[4]	2½¢	3¢	10%	6½¢	10¢	5¢	7½¢	12¢
H.R. 7810[4]	2½¢	3¢	10%	.....	9¢	7¢	.....	.....
H.R. 7659[4]	3¢	3¢	10%	6½¢	10¢	5¢	7½¢	12¢
Steed Amendment to H.R. 7474[3]	3¢	3¢	10%	7¢	7¢	7¢	4¢	11¢

1—Camelback tax means material used in recapping or retreading tires. Applies to tires with a crown width of 6 in. or more, except the Steed Amendment applies to *all* camelback. 2—Inner tubes for tires more than 8½ in. in cross section, except the Steed Amendment applies to *all* inner tubes. 3—Defeated in this year's session of Congress. 4—Still eligible for consideration by Congress in 1956.

Here's how the tax provisions of the highway bills before Congress this year compared. Still eligible to be acted on next month are HR 7720, 7669, 7659, 7810. Bond financing bills still "in the works" include S 1048, 1573 and HR 4260, 4518.

WASHO ROAD TEST FINAL REPORT WAS released late in October, shows that asphalt highways of proper design are more than capable of carrying heaviest legal vehicle weights. Actual diagrams of the remarkable condition of the road at the conclusion of the tests appear on pages 80 and 81.

ICC CHAIRMAN Hugh W. Cross resigned last month giving as his reasons his health and regard and respect for the ICC. Except for this, he said, he would remain and defend himself against the "baseless charges" made against him in a closed Senate subcommittee investigation. Although not made public, the charges centered around Cross's alleged influence in obtaining for Railroad Transfer, Inc., the contract for mail and passenger transfer among Chicago's eight railroad stations.

OTHER ICC PERSONNEL CHANGES INCLUDE resignation of Commissioner J. Haden Alldredge, retirement of Bureau of Motor Carriers Administrative Officer George A. Casey, and appointment of M. N. Hardesty as managing director.

IN THIS ISSUE . . .

BRAKES are the top subject with full text of ICC's emergency brake regs and analysis of available equipment starting on page 70.

Better **MAINTENANCE** comes in for its share of attention with (1) a description of **PARS** to measure maintenance efficiency for bus men on page 69, (2) a picture view of an Air Force **MODEL SHOP** on page 74, and (3) a discussion of how **INSTRUMENTATION** can cut maintenance costs beginning on page 76.

A comprehensive reference **INDEX FOR 1955** appears on pages 91 and 92.

Also, there's a full review of the **TWO-WAY RADIO** situation on page 66, and a report on the value of your **LOCAL FLEET ASSOCIATION** starting on page 86.

NEW MODELS described include **STUDEBAKER'S** '56 line (page 94), **REO'S** COE tractor (page 96), **GMC'S** hydraulic starter for diesels (page 98), **DODGE'S** 96-in. contour-cab tractor (page 98), **WHITE'S** 90-in., 9000 series tractor (page 100), **CHECKER'S** new cab models (page 100), **GRAMM'S** nailable steel trailer flooring (page 102).

The Road Ahead

AN EXPERIMENTAL AIR SUSPENSION SYSTEM ON a road tractor will be exhibited next month at the Chicago Automobile Show by one of the truck manufacturers. Reports are that it may be a production model later in the year.

OHIO'S RECIPROCITY PROBLEM IS up in the air again. An Ohio Court of Appeals has upheld the State's right to cancel existing reciprocity pacts thus nullifying an earlier restraining order obtained by fleet operators (Oct., page 20). They are expected to appeal the decision to the Ohio Supreme Court. In the meantime, Minnesota, Wisconsin, Tennessee, Rhode Island, Texas, Delaware and West Virginia have signed new pacts with Ohio permitting collection of the axle-mile tax. Michigan and Illinois are threatening to require Ohio trucks to purchase license plates before operating in those states if Ohio insists on collecting the axle-mile tax on trucks licensed in those states. Missouri is reported already requiring 3-axle trucks from Ohio to purchase Missouri plates. Yet to be heard from are Indiana, Alabama, Florida, Iowa, Kentucky, Lousiana, Mississippi, Nebraska, North Carolina and Pennsylvania.

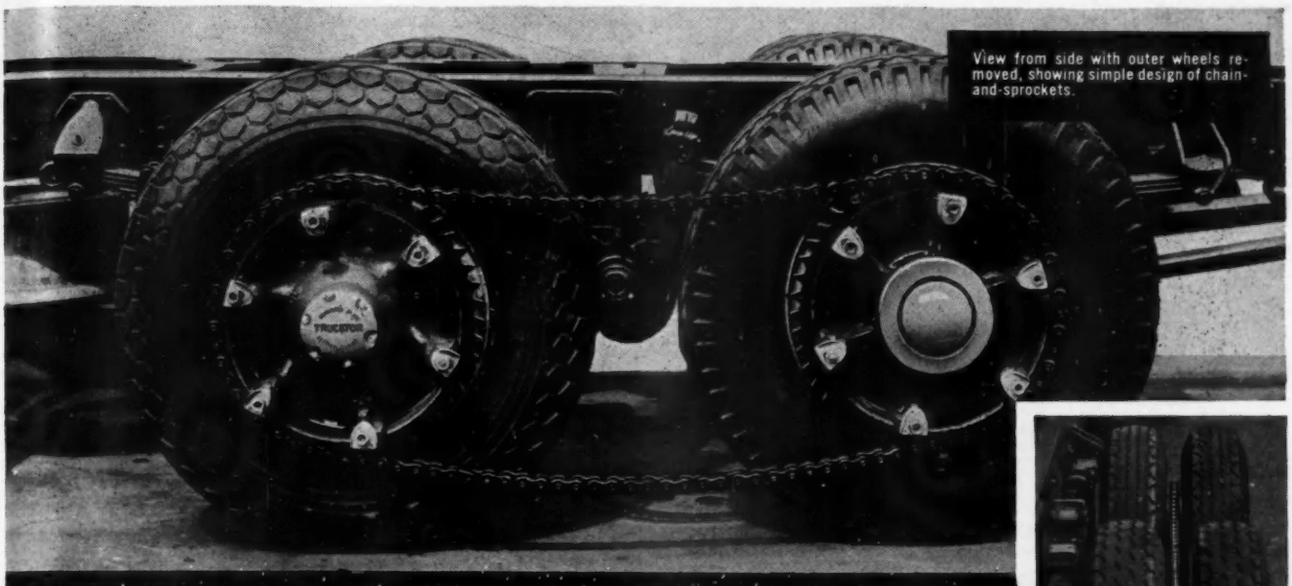
PACT FOR PRO-RATA DIVISION OF highway-use taxes on trucks has been given tentative approval by the Western Interstate Committee on Highway Policy Problems. In general, the proposal provides for registration of intercity fleets in the various states of operation in proportion to the mileage operated in each state. While it is reported that the agreement will be in effect in time for the 1956 licensing year, it still requires formal adoption by the states represented at the meeting—California, Colorado, New Mexico, Nevada, Oregon, Washington, Idaho, Montana and Kansas. Other possible participants are Wyoming, Arizona and Utah.

TRANSPORT POLICY REVISION BATTLE IS underway. ATA officials have made several grass roots speeches and the Association has prepared a new 16mm sound film for showing over TV and to local groups that explains the dangers to economic transportation contained in the proposed legislation. Also, vehicle makers through the Automobile Manufacturers Assn. are studying the matter following a request from ATA for supplier assistance in defeating the legislation. (For further details, see page 104, this issue.)

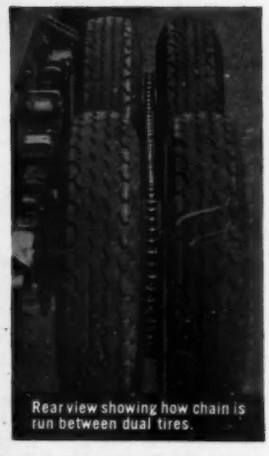
PIGGY-BOAT SERVICE ON the Great Lakes was advocated by Milwaukee, Wis., port officials at last month's meeting of the American Assn. of Port Authorities in discussions with several shipping firm representatives.

TRUCK-TRAILERS IN use will total about 700,000 by the end of this month, and will reach nearly 800,000 in 1956, one million by 1960 and close to two million by 1970, predicted Fruehauf Co. President Roy Fruehauf early last month. Most recent registration, sales and production data is summarized below:

In thousands of units, except bus sales are in actual numbers	New Truck Registrations		Truck Factory Sales—Domestic		Truck Trailer Shipments		Bus Factory Sales—Domestic		Truck and Bus Tires				
									Replacement Shipments		Original Equip. Shipments		Inventory End of Sept.
	Sept.	9 Months	Sept.	9 Months	Sept.	9 Months	Sept.	9 Months	Sept.	9 Months	Sept.	9 Months	
1955	89.9	700.5	76.9	786.1	7.1	55.3	198	2468	804.4	6888.4	393.4	3870.1	2267.5
1954	66.2	628.9	50.8	641.9	4.1	40.3	314	2834	711.8	5942.3	226.7	2714.5	2232.2



View from side with outer wheels removed, showing simple design of chain-and-sprockets.



Rear view showing how chain is run between dual tires.

Trucktor®

Detachable 4-WHEEL DRIVE

...FOR BETTER TRACTION ON SLIPPERY ROADS

You get more than increased payload capacity when you convert with Trucktor 3rd Axles. You also get that improved traction that is so critically needed during about 10% of highway running time — from Trucktor's exclusive *Detachable* Chain-and-Sprocket 4-Wheel Drive

It is a simple matter for the driver to slip the chains over the sprockets and pin them in place in a few minutes time. When the extra traction is no longer needed, they are just as readily removed—can be stored in tool box when not in use. Wheels do NOT have to be removed to attach or detach chains.

The sturdy, lightweight construction of Trucktor's Detachable Chain-and-Sprocket 4-Wheel Drive saves payload. The better traction makes tire chains unnecessary Detachability saves wear.

Keep your payloads on the go ALL the time this dependable, economical way Prepare now for winter road conditions.

See your Truck Dealer, Trucktor Distributor, or write direct to the Trucktor factory.

THE TRUCKTOR CORPORATION, Route 22, Mountainside, N. J.

***Safety* IS NO ACCIDENT—*6-Wheelers* ARE SAFER!**

DATES and DOINGS

DECEMBER

14-15—Pennsylvania and Ohio Cooperative Safety Patrols, Annual Joint Convention, Chesterfield Hotel, Cuyahoga Falls, Ohio.

JANUARY

9-13—Society of Automotive Engineers, Annual Meeting, Sheraton-Cadillac and Statler Hotels, Detroit, Mich.

11-14—American Roadbuilders Assn., Annual Convention, Municipal Auditorium, Miami Beach, Fla.

17-20—Highway Research Board, Annual Meeting, Washington, D. C.

18-19—Executive Committee, American Trucking Assns., Washington, D. C.

23-25—Truck-Trailer Manufacturers Assn., Annual Convention, Edgewater Gulf Hotel, Edgewater Park, Miss.

23-27—Regular Common Carrier Conference, Board of Governors Meeting, El Mirador Hotel, Palm Springs, Cal.

30-Feb. 2—United Fresh Fruit & Vegetable Assn., Annual Convention, Hotel Roosevelt, New Orleans, La.

FEBRUARY

6-9—Automotive Accessories Manufacturers of America, Exposition, Navy Pier, Chicago, Ill.

9-10—Private Truck Council of America, Annual Convention, Cleveland Hotel, Cleveland, Ohio.

23-26—Pacific Automotive Show, San Francisco Civic Auditorium, San Francisco, Cal.

MARCH

6-8—Society of Automotive Engineers, Passenger Car, Body and Materials Meeting, Hotel Statler, Detroit, Mich.

APRIL

11-14—Middle Atlantic Regional Automotive Show, Commercial Museum, Philadelphia, Pa.

22-26—National Tank Truck Carriers, American Trucking Assns., Shoreham Hotel, Washington, D. C.

28-May 6—International Automobile Show, New York City Coliseum, New York, N. Y.

29-May 3—Operations Council, American Trucking Assns., Annual Meeting, Sheraton-Cadillac Hotel, Detroit, Mich.

MAY

5—Local Cartage National Conference, American Trucking Assns., New Orleans, La.

8-10—National Highway Users Conference, Highway Transportation Congress, Washington, D. C.

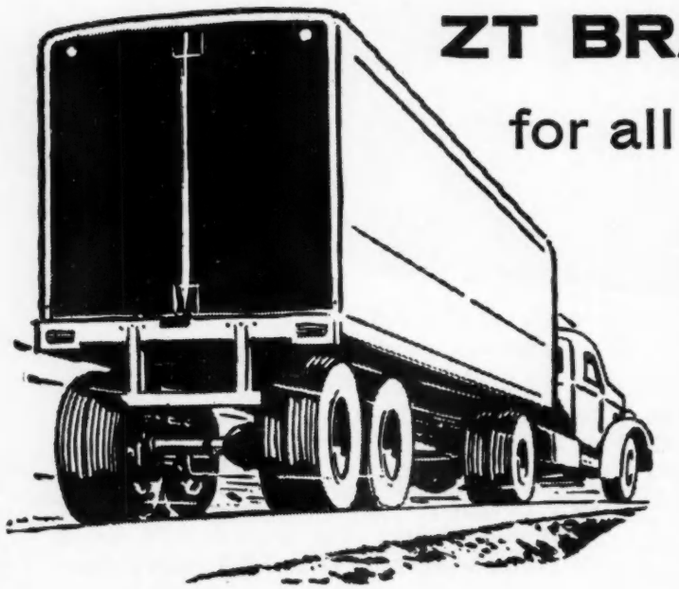
8-11—Equipment and Maintenance Council, American Trucking Assns., Spring Meeting, Sheraton Hotel, Chicago, Ill.

8-11—Council of Safety Supervisors, American Trucking Assns., Spring Meeting, Sheraton Hotel, Chicago, Ill.

10-13—Southwest Automotive Show, Houston Coliseum, Houston, Texas.

13-19—Regular Common Carrier Conference, American Trucking Assns., Board of Governors Meeting, Edgewater Park, Miss.

25-26—Southeast Automotive Show Trade Conference, Asheville, N. C.



ZT BRAKE BLOCKS

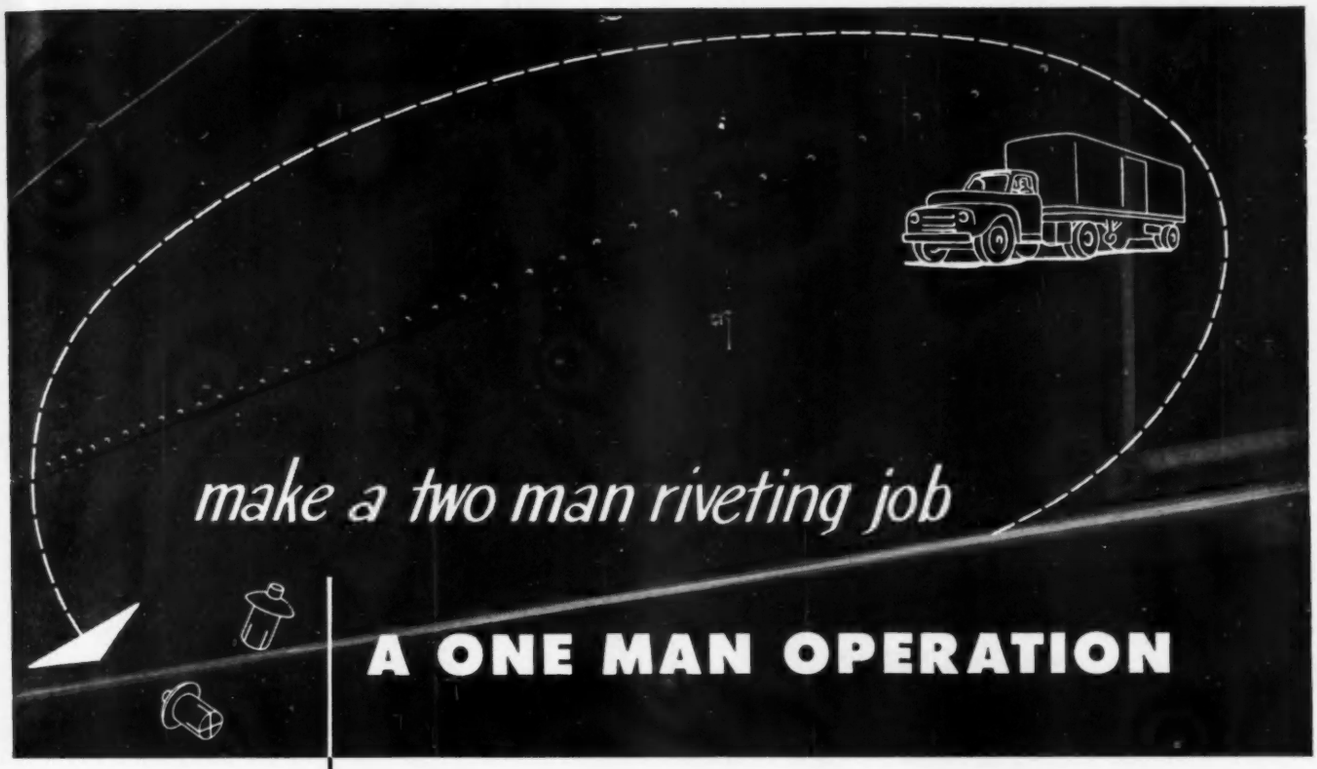
for all loads and roads!

Now more than ever SCANDINAVIA ZT Brake Blocks have what it takes "for all roads and loads"! SCANDINAVIA ZT Brake Blocks have earned a reputation second to none for definite reduction of brake drum heat checking and more positive stopping.

Be sure you experience lower cost per dollar brake maintenance in *your* fleet by testing the brake block specifically made for abnormally severe operating conditions.

BRAKE BLOCKS • **SCANDINAVIA** • BRAKE LININGS

DIVISION OF SCANDINAVIA BELTING COMPANY, 744 BROAD ST. (P.O. BOX 464) NEWARK 1, N. J.
WAREHOUSE: 250 CENTRAL AVE., NEWARK 1, N. J. • PLANT: CHARLOTTE 1, N. C.
BRANCHES IN CAMBRIDGE, MASS. AND CLEVELAND, OHIO



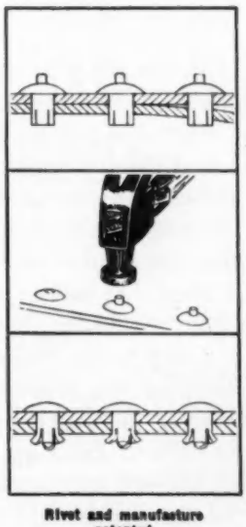
SOUTHCO DRIVE RIVETS

...speed trailer repairs...cut costs

A large trailer manufacturer uses SOUTHCO Drive Rivets throughout their branches for repair work because they enable one man, with only a hammer and a drill, to do patch work quickly and easily.

These rivets are ideal for "blind" locations because of the automatic pull-up feature which assures a tight joint. And SOUTHCO Drive Rivets won't vibrate loose. They require no finishing operations . . . no clipping, grinding, filing or deburring. Installation is quiet . . . no time is lost waiting for irons to heat . . . in fact no special tools are required . . . and no tool maintenance.

In addition, the smooth heads of SOUTHCO Drive Rivets eliminate the need for molding strips—and on interiors, they won't snag cargos.



Place SOUTHCO rivet in drilled holes

Hit the pin . . .

Automatic pull-up assures tight joint

Rivet and manufacture patented

SOUTHCO Drive Rivets are fast—just hit the pin—they make a strong joint and the automatic pull-up means a tight joint.

How can you benefit from the advantages of SOUTHCO Drive Rivets? Write for complete information to SOUTHCO Div., South Chester Corporation, 228 **Industrial Highway, Lester, Pa.**

SOUTHCO®

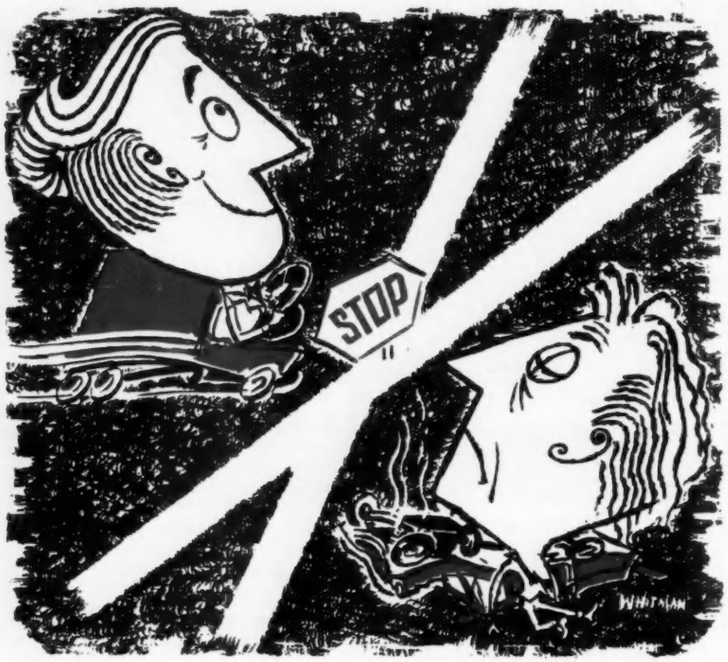
FASTENERS

PAWL • SCREW AND SPRING • DRIVE RIVETS • ANCHOR NUTS • ENGINEERED SPECIALTIES

OFFICES IN PRINCIPAL CITIES

WHEREVER TWO OR MORE PARTS ARE FASTENED TOGETHER, STANDARD AND SPECIAL DESIGNS FOR IMPROVED PERFORMANCE AND LOWER PRODUCTION COSTS

CCJ BULLETIN BOARD



MEETING BY ACCIDENT

This meeting on street corners becomes pretty involved sometimes—whether it's the redhead or the green fender. But the drivers who make the most time take the most precautions here. They don't try for a tie at a cross roads. Here's a couple of their secrets that might help to reduce the casualty lists and put the repair shop out of work . . .

Remember that two vehicles can't negotiate the same intersection at the same time without one coming out on "top." Then anticipate the fact that the other guy won't stop, won't see you, can't stop, can't see you; wouldn't give two whoops in hades if he did hit you. You figure he's going to be there—until you're sure he ain't.

Get in the habit of removing your foot from the accelerator and putting it on the brake pedal when you are at least 50 feet from the intersection. Take up the slack and you'll be ready and able to stop at least 25 feet quicker when traveling at 20 mph.

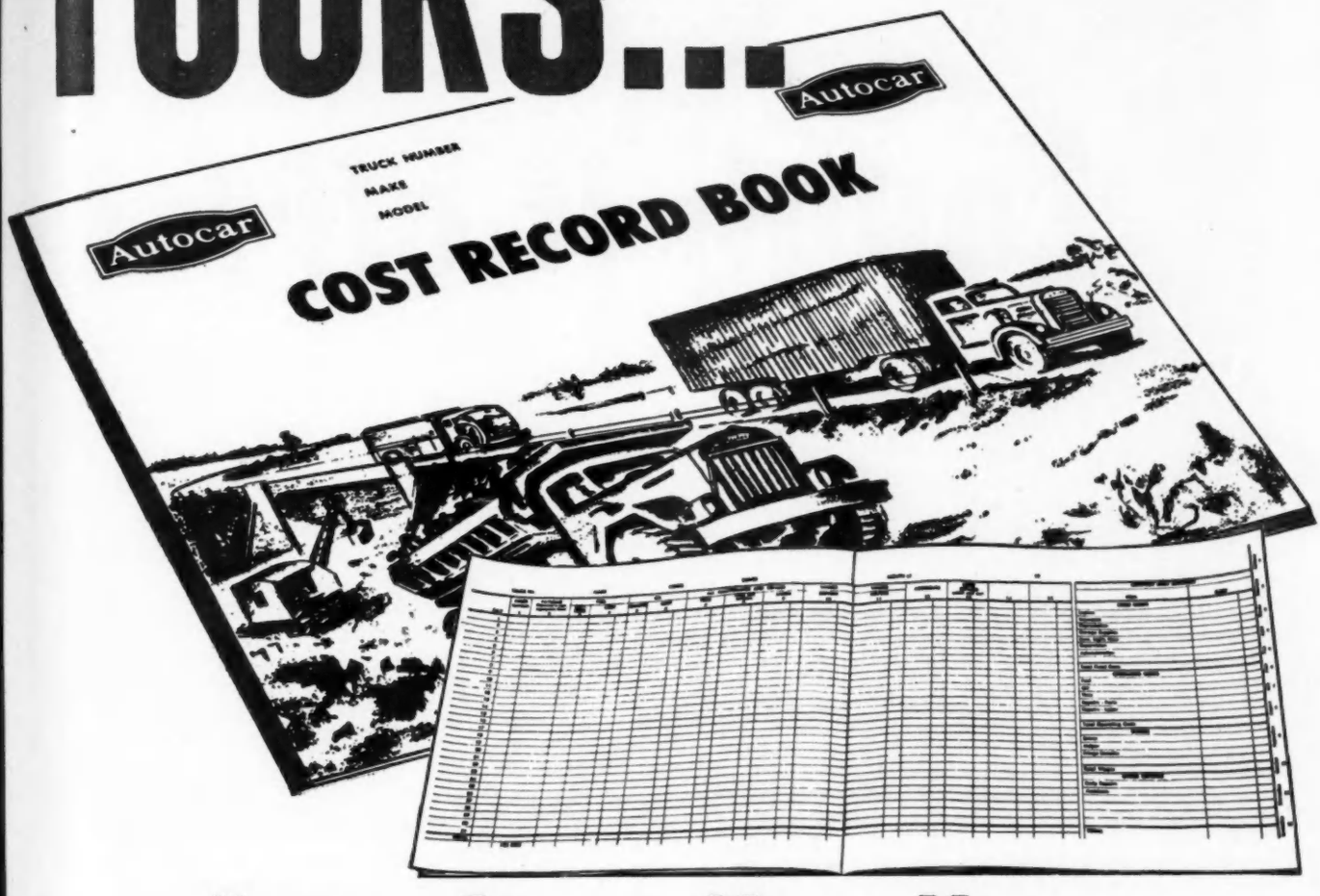
Make a practice of looking to the left first, and *then* to the right. This gives you a little more stopping distance in case you need it, since any vehicle approaching on the left will be nearest you. (We're saving fractions, but hope to save fractures too.)

Every intersection is a set-up for a smash-up—as the records show. And "protection" with stop lights and stop signs and rights of way, and I-was-here-firsts don't cut much ice with the Forces of Momentum. Just be sure you don't get tangled up with anything on a corner. It's a hell of a poor way to make an impression . . .

CLIP AND POST ON YOUR OWN BULLETIN BOARD —— REPRINTS AVAILABLE AT NOMINAL COST

CLIP AND POST ON YOUR OWN BULLETIN BOARD —— REPRINTS AVAILABLE AT NOMINAL COST

YOURS....



For a Great New Year of AUTOCAR Savings

ONCE AGAIN, Autocar offers you its proved-efficient "Autocar Cost Record Book" new and revised for its 34th printing.

Start the year with this comprehensive yet amazingly simple system to record total costs of each heavy-duty truck in your fleet.

As usual, we'll be glad to provide you with a sample "Autocar Cost Record Book" at no cost.

ORDER YOURS TODAY!

Let Us Prove the
Outstanding Economy of Autocars

AUTOCAR TRUCKS

AUTOCAR DIVISION, THE WHITE MOTOR COMPANY
EXTON, PA.

AUTOCAR DIVISION
THE WHITE MOTOR COMPANY
EXTON, PA.

Please send me a free copy of the "Autocar Cost Record Book"

Name_____

Title_____

Firm_____

Address_____

City_____ Zone____ State_____

No. Trucks In Fleet_____ 3-M

Laugh it off!

The husky young high school graduate applied to the freight terminal manager for a job. He was asked to fill out a four-page application form.

Finally, after much searching, he found an item on the form he could answer. To the query, "What machines can you operate?," he wrote confidentially: "Slot and Pin Ball."

CCJ

WEAVIN' WILLIE, OUR CITY DELIVERY DRIVER SAYS: "MANY INTOXICATED MEN WHO THINK THEY ARE MAKING A PASS AT A ANGEL, END UP HOLDING THE BAG."

CCJ

Road Driver: "Hey, Mac, how about hooking an over-emotional trailer to my tractor tonight? It's a mighty hard pull through the mountains."

Truck Dispatcher: "That's a new wrinkle on me. What's an over-emotional trailer?"

Road Driver: "One that's easily moved."

CCJ

Judge: "But why didn't you put your hand out to show that you were going to make a left turn?"

Diesel Mechanic: "Because the last time I did that in this town somebody stole the cherry out of the Martini I was holding."

CCJ

Safety Sadie: "How do you apply lipstick to the maximum advantage?"

Catty Cora: "Sadie, dear, it isn't 'how' you apply it that's so important. It's on whom you apply it that makes the difference."

Fleet Operator's Son: "Dad, mom just backed the car out of the garage and ran over my bicycle."

Fleet Operator: "Serves you right for leaving it on the front lawn."

CCJ

City Bus Driver: "I've loved you more than you'll ever know."

Cuddlesome Cutie: "Well, I was afraid of that. Next time let me mix the drinks."

CCJ

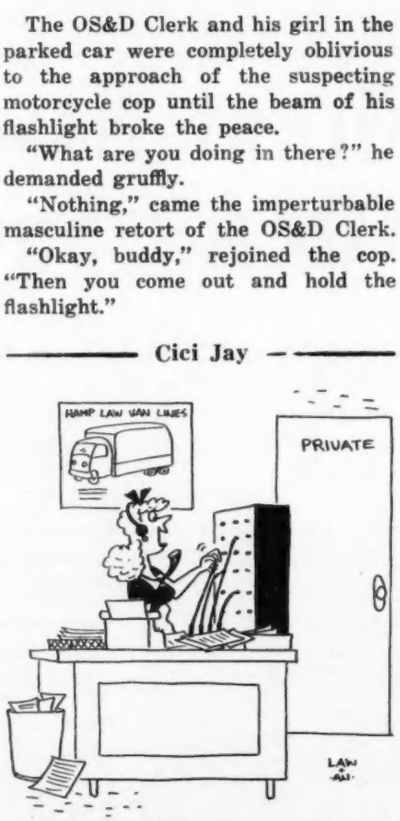
The OS&D Clerk and his girl in the parked car were completely oblivious to the approach of the suspecting motorcycle cop until the beam of his flashlight broke the peace.

"What are you doing in there?" he demanded gruffly.

"Nothing," came the imperturbable masculine retort of the OS&D Clerk.

"Okay, buddy," rejoined the cop. "Then you come out and hold the flashlight."

Cici Jay



"Whom shall I say is hauling?"

The truck driver candidate for a job with Fleety-Fleet Express had successfully passed his paper and pencil and road tests. He was next referred to the fleet examining doctor for the ICC physical examination.

"I don't like your heart action," said the doctor. "Apparently you've had some previous trouble with angina pectoris."

Heaving a sigh of relief, the young hopeful said, "Yes, Doctor, I have, but you haven't got her name right."

CCJ

FATTY FLOORBOARDER, OUR BIG FOOTED CITY DRIVER, SAYS THAT A SICK KLEPTOMANIAC IS ONE WHO TAKES THINGS LYING DOWN.

CCJ

Freight Solicitor: "Gosh, baby, how my mind is wandering tonight."

Cuddlesome Cutie: "Yeah, big boy. It's trying to keep up with your hands."

CCJ

Transmission Specialist: "So she let you come up to her apartment, did she? How was she equipped?"

Air Brake Mechanic: "She has just about what every other city girl has."

Transmission Specialist: "What's that?"

Air Brake Mechanic: "A roommate!"

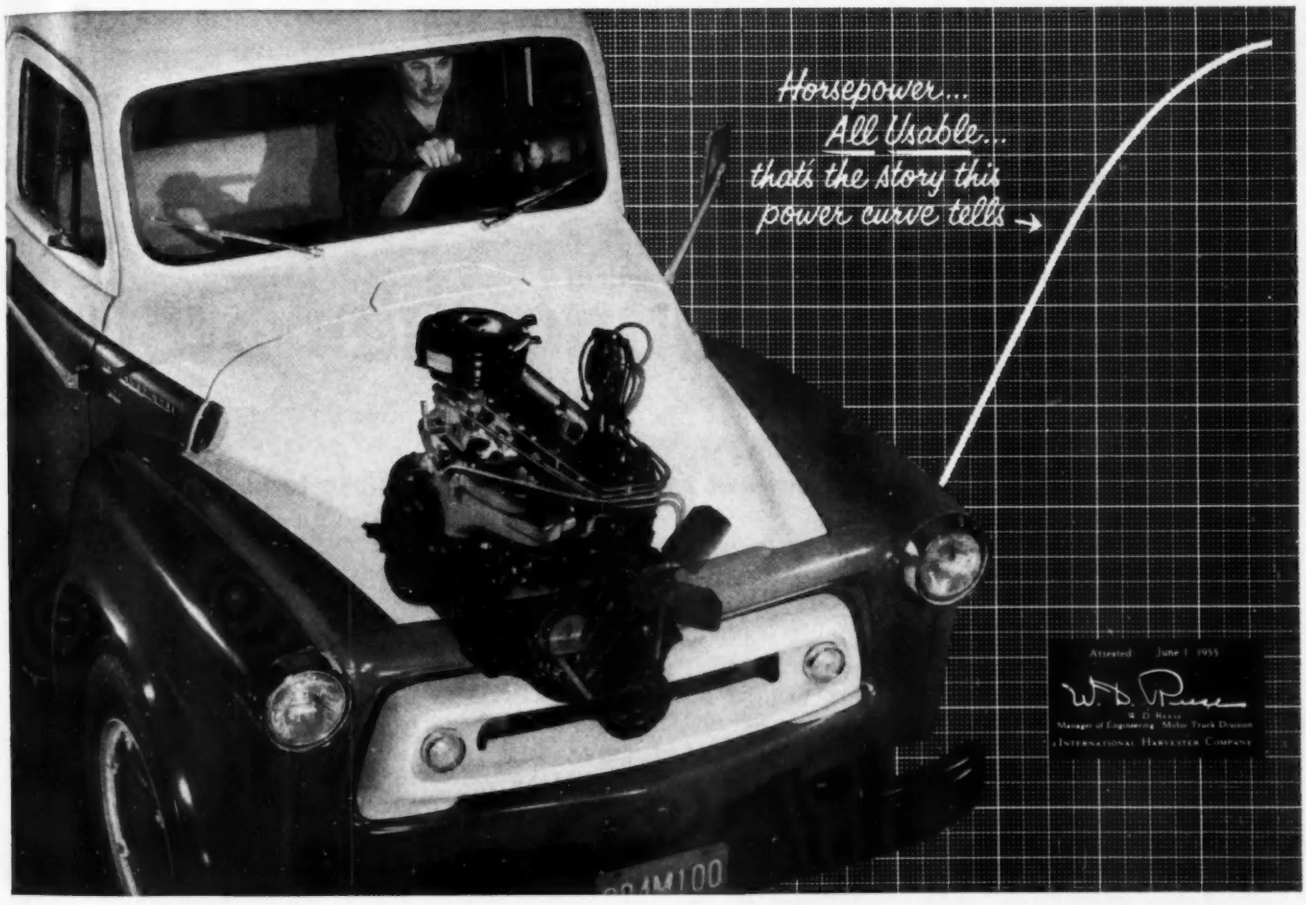
CCJ

Little Wifey: "You've just got to stop drinking, Sam. Five doctors have said it's bad for you, and they ought to know."

Truck Mechanic: "But do they know? You see a lot more old drunks than old doctors."

Resume Work

It's usable horsepower that counts!



Many passenger car type truck engines have to rev up to high speeds to pull their loads. They strain at the job—cost big money in wear and repair. INTERNATIONAL all-truck engines turn at relatively low rpm—deliver high usable horsepower at normal road speeds, for peak performance, long life, BIG money savings.

Internationals give you power without strain at safe, economical rpm to save you the BIG money!

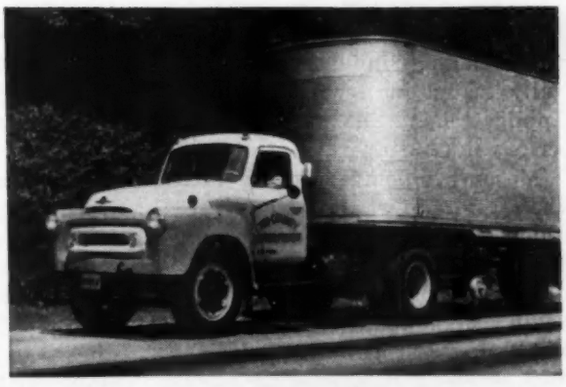
Rated horsepower figures don't tell the whole story of truck performance.

Wise truck buyers want to know *more* than rated horsepower. They want to know how much load they can haul without tearing the engine's heart out—what actual *usable* power they are going to get to pull capacity loads at normal, legal speeds.

Usable horsepower—that's the point to keep in mind when buying trucks.

INTERNATIONAL engines deliver high usable horsepower at economical, wear-reducing speeds. Because they are built for use in *trucks*, with no compromise with passenger car design.

You get the usable power you need, plus longest truck life, every driver comfort and convenience. See your INTERNATIONAL Dealer or Branch for trucks exactly right for your job—all-truck built to save you the BIG money.



In the world's most complete truck line, there are trucks for every highway hauling job. Conventional and COE 4- and 6-wheel ROADLINER® models, 29,000 to 76,800 lbs. GCW. Every other truck type with engines, axles, transmissions for every need.

INTERNATIONAL HARVESTER COMPANY • CHICAGO

INTERNATIONAL® TRUCKS

All-Truck Built to save you the BIG money!

Motor Trucks • Crawler Tractors • Industrial Power
McCormick® Farm Equipment and Farmall® Tractors

Clearing the "Static"

Fleetmen are generally sold on the idea as a method of

1956 could be the year for mobile radio to come of age in the trucking industry. Successfully tested in a variety of fleet applications, it has proven itself as a valuable operating tool.

Major problem continues to be the limited radio frequencies available. Recent changes in regulations by the Federal Communications Commission have permitted expansion of fleet radio use, but as interest grows, the demand will probably continue to exceed the number of available frequencies. Continued efforts are being made by the FCC and radio equipment manufacturers to make the most efficient use of the radio frequencies that are available, and it seems likely that fleet use of radio will continue to grow. Some indications of the potential growth of radio use may be gathered from the fact that in the first six months of the Motor Carrier Radio Service, which increased availability of licenses, 311 licenses were granted and an additional 240 applications were pending action. This compares with a total of only 1076 licenses granted in six years under the previous rules.

Enthusiastic Users

After several years of cautious experiment, fleet operators are now generally sold on the idea of mobile radio as a method of improving fleet efficiency. For-hire carriers have found it particularly effective for directing their pick-up and delivery units, while private carriers are using radio in their service vehicles to improve service to their customers.

Radio is not being heralded as a magic cure-all for high operating costs, however. General industry opinion now is that while radio dispatching offers distinct advantages for many fleets, it is an expensive luxury for others, and the potential value to a specific fleet should be determined from a test installation.

Despite this note of caution, fleets which have installed radio systems have been generally enthusiastic. Here, for example, are some replies to a survey of mobile radio users by the Regular Common Carrier Conference of American Trucking Associations:

"A six-month survey showed that we increased our man-hour productivity from 1459 pounds per man-hour to 2193 pounds per man-hour, a 33.5 per cent increase. Based upon the above, we estimate annual per-vehicle savings of $1,800 on wages and $2,430 on maintenance."

Another fleet estimated that the part of its pick-up fleet equipped with radios was approximately 20 per cent more efficient than the units without radio.

Still another carrier reported that it was able to use 18-foot bodies for P & D service instead of the 12 and 14-foot bodies previously used.

At a meeting of The Operations Council of ATA earlier this year, one operator estimated that radio had helped reduce his operating costs by from 15 to 20 per cent, another reported that the cost per stop of pick-up equipment was reduced from $1.13¾ to 91¢ when radio was installed, and a third reported that radio resulted in eliminating approximately 900 telephone calls to the dispatcher in two weeks. Pointing up the fact that not all fleets can expect magic results from radio, however, was one operator's state-

from Mobile Radio

improving operating efficiency. Big problem is limited frequencies

By Jack Colgan
Special Features Editor

ment that mobile radio in his test installation resulted in an increase in efficiency of only one per cent.

Private Carriers

Private truck operators are also finding uses for radio-equipped trucks. Some examples:

A petroleum processing company now uses radio-equipped units in its refinery area. Formerly each plant needed its own service truck, which it kept on a stand-by basis. Now several of these trucks have been eliminated and radio-equipped trucks are dispatched from a central pool when and where they're needed.

A fuel oil company has equipped its service trucks with radios, has its service men start out on their calls directly from their homes. Customer service calls are transmitted to the servicemen by radio, and the trucks return to the company's plant only when it's necessary to replenish supplies.

A construction fleet uses radio to maintain contact with its superintendent and chief mechanic, as well as to speed delivery of replacement parts to equipment on the job.

A laundry has equipped its small fleet with mobile radios to improve service to its customers. (This operation was described in July COMMERCIAL CAR JOURNAL, page 73.)

A refrigeration service company using radio in 25 trucks reported that, on the basis of a six-month study, average service time per call was reduced eight minutes, average mileage per call was reduced from nearly 3 to 2.5 miles, and average calls per man per day were increased from 7.5 to 9 calls.

Limited Availability

On the basis of these reports, you might reasonably wonder why radio hasn't become an essential factor in successful fleet operation. The answer: problems in obtaining authority to use radio, particularly in metropolitan areas. Available radio frequencies are limited, and the Federal Communications Commission is required to assign them on the basis of the "public service" potential of a proposed service. Such a requirement means that commercial fleet use of radio has a relatively low priority, compared with such uses as police, fire, and other emergency services.

As things now stand, here are the types of radio service available to commercial fleets:

Motor Carrier Radio Service: Established March 15, 1955, this service offers radio licenses for "for hire" motor carriers engaged in moving property continued in or destined for shipment in interstate or foreign commerce. It may not be used for communications by persons solely engaged in pick-up and delivery of property within a single urban area, although local pick-up and delivery of interstate shipments is permitted. Two frequency bands are provided for use by trucks, one in the 44 megacycle region (limited to line-haul equipment), the other in the 450 megacycle region. Frequencies in both these bands are available on a shared basis only, and will not be assigned for exclusive use.

In general, frequencies in the 44 mc band provide wider coverage than in the 450 band. However, under certain conditions these frequencies are subject to long-distance interference from foreign radio transmitters.

Equipment for operation in the 450 mc region does not give the same coverage per dollar invested, is more subject to absorption by trees and foliage and is subject

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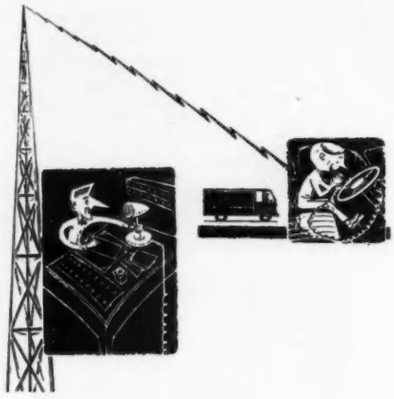
Clearing the "Static" from Mobile Radio

Continued from Page 67



to shadow. There is less chance of long-distance interference in these frequencies, however, and coverage may be extended by increasing the number of base stations used in the system.

Special Industrial Radio Service: Formerly restricted to persons engaged in construction, manufacturing, fabrication and production, this service was expanded to include a number of other types of truck users as of November 1, 1955.

Under the new rules, mobile radio licenses are available in the following categories: agriculture, heavy construction, building construction, manufacturing and mining as well as in connection with activities incidental to petroleum operations, delivery of fuel oil, butane gas and ice, servicing and repairing of heavy machinery, etc.

With certain exceptions, licenses in this service are for radio operation outside of standard metropolitan areas. Among the exceptions, one is based on a showing that the transmitting equipment will be used in an area of low population within the metropolitan area but removed from the urbanized section. A specific exception permits radio use by persons engaged in construction activities for on-the-job communications. Similarly, persons engaged in manufacturing activities may use radio within the "yard area," a term which has been liberalized compared with the previous concept.

Fleets which are ineligible for either the Motor Carrier Radio Service or the Special Industrial Radio Service may still be able to obtain a mobile communications system, either as a licensee under the Citizens Radio Service, or through subscribing to the service offered by a communications common carrier such as the Bell Telephone System. While systems operated in the Citizens Service have a limited range, reception is generally good, operating procedures are simplified, (no station log of transmissions need be kept) and licenses may be obtained at the local FCC office if FCC-approved equipment is to be used. No license is required to use the service offered by the telephone company. Mobile units are reached from any telephone by contacting the long-distance operator and giving the unit's assigned number.

Problems

Despite its use by many fleets, mobile radio is still a relatively new service, with a number of problems still to be overcome, many of them in the field of regulation.

In the Motor Carrier Radio Service, the present definition of "urban area" poses problems for carriers operating in the 450 mc range, since in many cases the area extends beyond the range of the radio equipment.

Carriers operating in the 44 mc range are unhappy at being restricted to using radio for communication with line-haul vehicles. Major need, the carriers feel, is for communication with their smaller, pick-up and delivery units, and they feel that carriers qualifying for radio licenses should be allowed to use radio for dispatching either type of vehicle.

For some carriers, operating radio systems under previous rules, the new regulations have posed problems. When the Motor Carrier Radio Service replaced the former Highway Truck classification, some private carriers became ineligible and were faced with qualifying for a license under the Special Industrial Radio Service. Those that failed to qualify under the Special Industrial classification are permitted to continue operation until March 15, 1960, but may not expand their present facilities.

Limited available frequencies are, of course, a basic problem. However, the FCC and radio equipment manufacturers are working to develop regulations and equipment which will make the most efficient use of existing channels. Apparently one of the most promising developments is the technique of splitting channels so that two or more will be available where now there is only one. An FCC spokesman recently pointed out, however, that in the 44 mc range increasing the density of licenses per channel through channel splitting would lead to increased interference between systems.

Establishing a System

Despite the problems to be faced, potentially increased efficiency makes mobile radio worth considering for many fleets. If you are one of the fleetmen now considering the service, probably your best bet is to contact any of the reputable equipment manufacturers and arrange for a representative to discuss your particular operation with you. He'll help you determine your license classification, the equipment you'll need, and will outline the cost and potential savings picture.

General practice in the industry is to purchase a test installation before setting up a complete radio system. If you decide to do this, there are several points worth noting. Here are suggestions for the test based on comments of fleetmen who have conducted tests:

1. Base your test on the comparative performance of two groups of your trucks (one with, the other without radio) perform-

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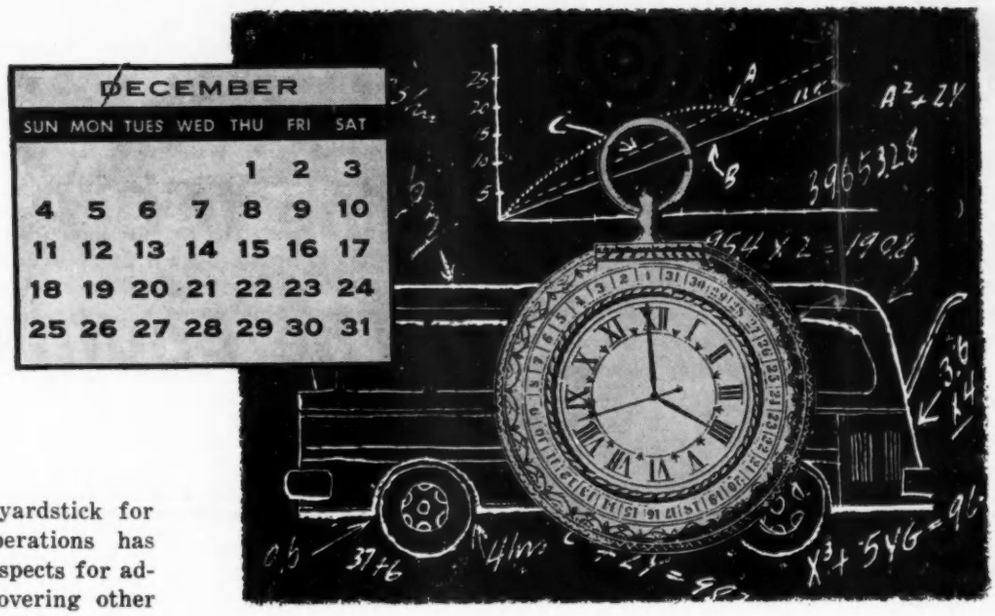


R. W. Ziffle, chairman, Mechanical Division Committee on Supporting Yardsticks, outlines suggested formulas for figuring bus service and maintenance

Maintenance Yardsticks

Show Bus PM Efficiency

A TENTATIVE yardstick for vehicle servicing operations has been adopted and prospects for additional yardsticks covering other phases of maintenance appear promising. A second tentative yardstick—this one for measuring the efficiency of vehicle maintenance, repair and overhaul operations—has been given approval by the Transit Pars Steering Committee of The American Transit Assn.

These are only tentative ratios developed from somewhat limited statistics and, therefore, may require some adjustment in the light of more extensive data now being collected by the committee. However, it is believed that any such modification will be minor in nature.

Servicing Par

The tentatively adopted yardstick for servicing is 1.00 man-hours per bus-day. This ratio is believed to represent a reasonably attainable degree of efficiency for shop labor utilized in daily bus servicing operations.

To check your operations against this yardstick it is necessary to perform the following calculations:

1. Determine the total number of man-hours spent on servicing operations during any given period.

Included in this man-hour total should be all shop labor—exclusive of supervisory and clerical—associated with the servicing of vehicles with fuel, oil and water; hostling and parking; minor visual and audible inspections performed during servicing operations; all cleaning, interior and exterior, including steam cleaning and other cleaning operations performed as part of inspection or overhaul procedures.

2. Determine the total number of bus-days operated during the same given period.

Multiply the maximum number of scheduled vehicles on weekdays, Saturdays and Sundays by the repective number of weekdays, Saturdays and Sundays within the period and add these three totals.

3. Divide the total man-hours (1) by the total bus-days (2) to obtain a ratio of man-hours per bus-day for your servicing operations.

4. Compare your ratio with the adopted standard of 1.00 man-hours bus-day to determine the relative

(TURN TO PAGE 128, PLEASE)

EMERGENCY BRAKES . . .

The ICC Proposal

The Equipment

THE Interstate Commerce Commission, in proposing its new emergency brake regulation, has set Jan. 3, 1956, as deadline for written comments. It takes one signed original and 14 copies. No hearings are contemplated. Unless revisions are deemed necessary, it can be expected that the rule will go into effect as written.

The proposed regulation would apply on all new combination vehicles manufactured after Sept. 30, 1956, and on all combination vehicles in use after March 31, 1957. These dates were in line with statements by the manufacturers that it would take approximately one year to make the necessary engineering and design preparations to equip new vehicles with the braking devices, and another six months thereafter to manufacture enough equipment and to install it on vehicles now in use. About 250,000 units are expected to fall within coverage of the regulation. Many more if state regulations follow suit.

Conversion Cost Estimates

Estimates on cost of the equipment vary widely and in proportion to the number of axles. Best initial guessing for conversion units range from $50 for a single axle trailer and $110 for a tandem to as high as $375 for the largest of the western rigs.

The new proposal has been anticipated for some time. For more than a year the AMA-TTMA Brake Sub-committees have focused urgent attention on the problem of making the brakes on commercial vehicles safer in the event of failure of some part of the system. Also committees of ATA have cooperated in the development of such an emergency system. While there will be gnashing of teeth on the price, representatives of the truck, trailer and brake companies are gratified that ICC has adopted the recommendations of the committee and feel that this is the best possible way to meet the needs of the industry.

Equipment Meeting New Rule

Several manufacturers have equipment available which will meet the requirements of the recent ruling. All of the systems provide a protected air supply for the brakes on each protected axle. The essential feature is a relay valve which either will not feed back into the emergency line or will not feed back until a definite predetermined pressure is exceeded. Brakes will apply automatically at a controlled rate when the emergency line pressure drops below another predetermined value. The characteristics are built into the components and cannot be changed by the driver.

All systems shown on these pages as well as the valves when used in conjunction with tanks and lines as prescribed will provide for at least one controlled stop in the event of failure of any one part of the system. Thus any failure causing the emergency line pressure to drop below a preset value will result in brake application on both towed and towing vehicles. Only the normal foot control and trailer hand control are used, with brake application resulting through the operation of either or both, or automatically. There will be brakes when the driver works his normal controls unless he has ignored the low pressure warning signal, in which case the application will be automatic.

Protection from Brake Failure

The stopping ability of the emergency system depends upon the relation of total number of brakes in the combination to the number inoperative and upon the air pressure available. Minimum air pressure is preset (at approximately 50 lb) and upon reaching this value, automatic operation sets in. While automatic operation usually provides for some form of metered stop, there is no lag built into the system because of this. The stop varies with the manufacturer, but in each case it is sufficiently gradual to allow the driver to retain control.

The proposed ICC rule:

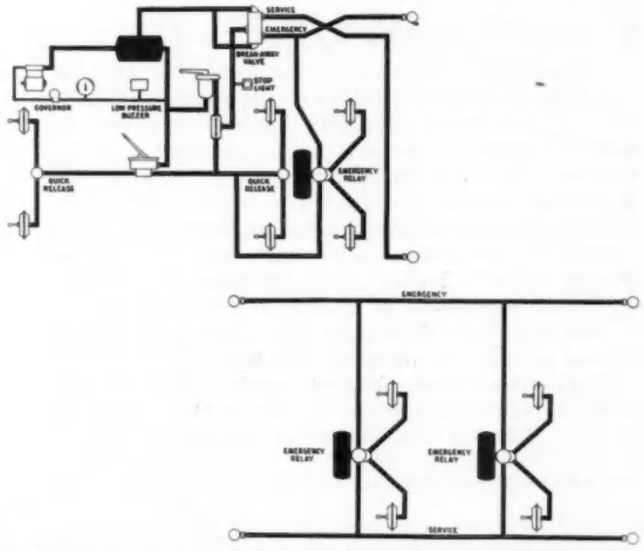
"Every motor vehicle, the date of manufacture of which is subsequent to September 30, 1956, and every motor vehicle in use after March 31, 1957, if used in a combination of motor vehicles shall, except as otherwise provided in this rule, have its service braking system so designed, constructed, and maintained as to provide that failure of any part thereof shall not prevent the effective application of brakes on more than one axle of the combination except that the front axle brakes of the towing vehicle need not be included in the protected group.

"The braking system shall be subject to the driver's control at all times by means of the controls which are used in the application of the service brakes, except as provided in these regulations with respect to automatic brake applications. Application of towed-vehicle brakes shall be, and application of towing-vehicle brakes may be, automatic in the event of failure of the source of braking power on the towing vehicle or of the means of applying the brakes, but the system shall not be arranged to permit automatic brake application on the towing vehicle without brake application on the towed vehicle or vehicles, nor to permit automatic brake application on the foremost axle of the towing vehicle in any event.

Bendix Westinghouse

This is B-W's auxiliary system for a six-wheel tractor and tandem axle semi-trailer combination. It is also applicable to trains involving a tractor and two trailers. This system provides for protection by axle without the use of auxiliary driver controls.

In the event of failure in the service brakes on either tractor or trailer, at least 40 lb of air is retained on the tractor for normal service brake application to the tractor brake chambers and/or a metered automatic emergency brake application (taking approximately 10 sec) will occur on the rear-rear of the tractor and on both axles of the trailer. Thus every axle (excluding the front) is protected in the event of failure of any part of the system.

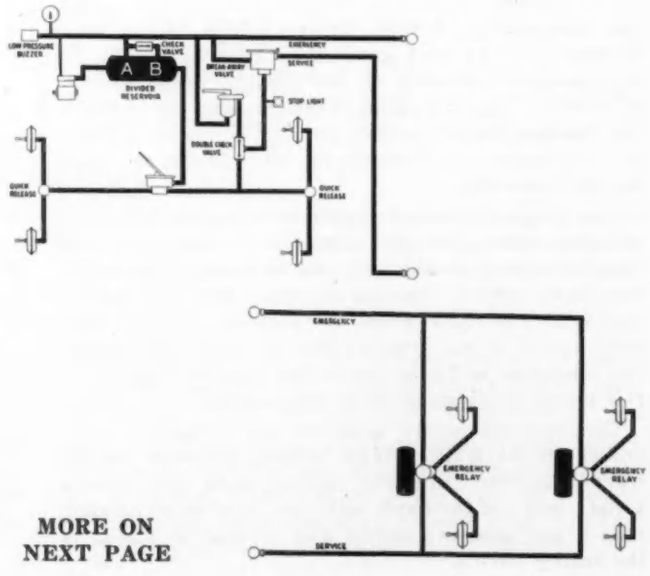


Midland System

Midland's emergency brake system offers the same degree of protection as described earlier, although the physical arrangement and functioning is somewhat different. It features two air circuits on the tractor, one of which supplies air to the tractor brake system, and the other to the protected axles (including one axle on the bogie unit of a 6-wheel tractor not shown in the diagram).

The breakaway valve functions automatically to protect the tractor in case of breakaway, and also functions as a relay valve to speed up application time of normal service brake application.

The relay emergency valves have dual compensating controls, one of which causes the relay valve to supply air to the brake chambers in proportion to the air pressure in the service or control line. The other causes the relay valve to supply air to the brake chambers in inverse proportion to the air in the emergency line at emergency line pressures below 45 psi.



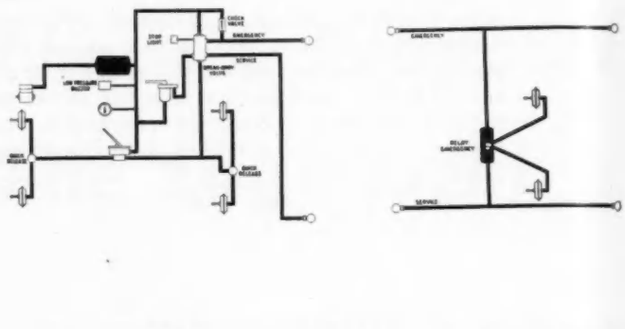
MORE ON NEXT PAGE

Emergency Braking Systems Continued from Page 71

Wagner System

The same degree of protection against component failure is achieved as described for the B-W system, although there are differences in the design of the individual units.

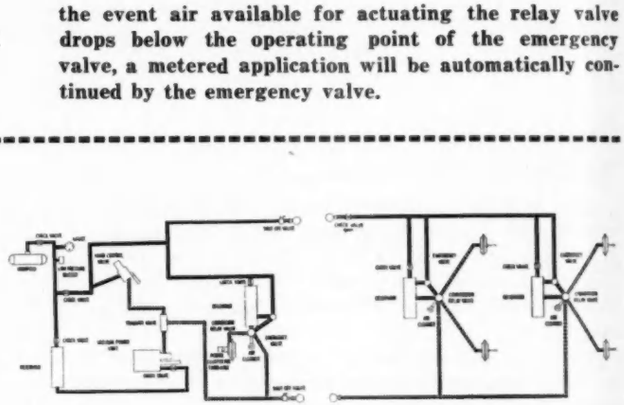
The tractor protective valve protects the tractor braking system against loss of air due to failure of any components of the trailer braking system or trailer breakaway. This system also provides additional safety for the air brake system by bringing emergency braking into action in the event of failure of the normal service braking system. A separate air reservoir and relay emergency valve is provided for each axle except the steering axle, and the relay emergency valve is piped so that it applies air to only this one axle. Normal service braking on these axles is accomplished by the relay portion of the valve but in the event air available for actuating the relay valve drops below the operating point of the emergency valve, a metered application will be automatically continued by the emergency valve.



Vacuum Hydraulic System

The vacuum hydraulic braking system is designed to obtain maximum safety with minimum additional or new equipment. Principal features are: (1) An audible warning signal and vacuum gage are included, even though these are not required by current ICC Regulations on assistor type power brake installations. (2) Full effectiveness of brakes on remaining axles (except, possibly, the tractor front axle) is retained in case of loss of brakes on any one axle. (3) Provides automatic application of trailer brakes (and brakes on one rear axle of tandem axle tractor) if system vacuum drops to a predetermined figure.

This system requires improved maintenance to avoid excessive unwanted automatic applications on long up grades. However, an automatic application can be avoided by momentarily closing the throttle to evacuate the system lines (not including reservoirs, & power units).

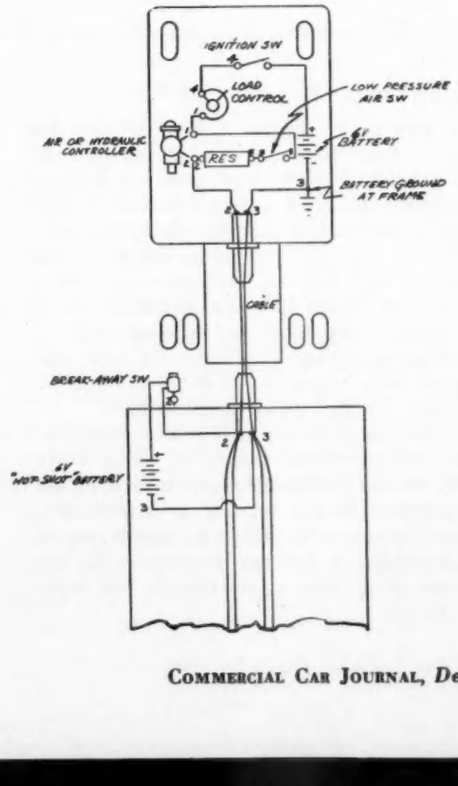


Warner Electric System

The electric brake on trailers provides a second, and independent, braking system which can be used in emergency through controllers actuated by the air or hydraulic pressure of the tractor brake system. In event of failures of one brake usually occurring at the "backing plate" terminal, which is subject to damage—or abuse—in servicing, the other brake, or brakes are still operable.

The diagram shows a modification primarily for air tractors, where the air controller is connected into the trailer service-pipe so it can be operated by either the foot valve or the hand valve, thus eliminating the hand controller from the steering column. This necessitated a low pressure switch which "by passes" the controller and sets the brakes at something below full power as determined by the resistor.

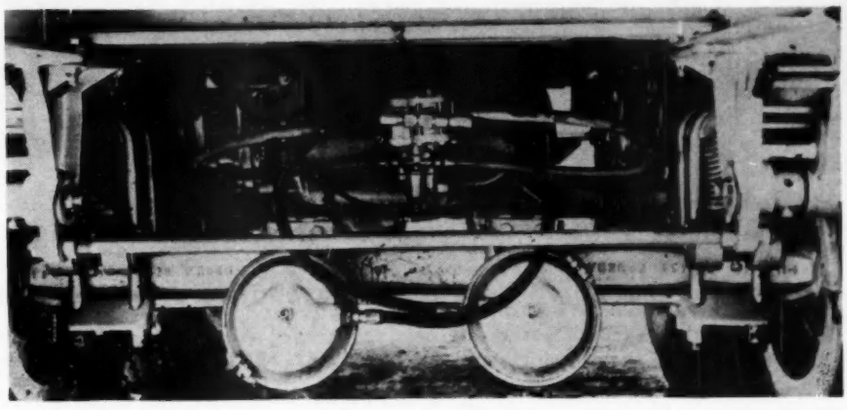
Certain fleets prefer to mount the air-operated controller on the trailer. With a hand controller on the tractor another available arrangement has proved satisfactory. If the hand controller is to be eliminated, then a low pressure switch and resistor is placed in the trailer circuit.



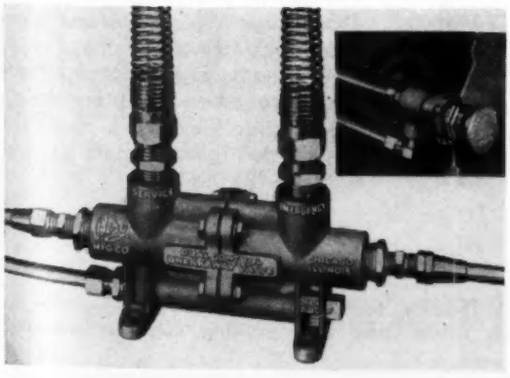
Everready System

This emergency brake system developed by Everready Emergency Brake Co., Inc., is an auxiliary brake circuit designed to come in automatically or manually (if desired) to activate the tractor and/or trailer brakes when any unit in the system fails.

The heart of the system is a solenoid controlled pilot-operated three-way valve. A complete auxiliary electrical circuit is used in conjunction with the valve. Power is derived from the battery through the ignition switch. The pressure switch at the valve senses a reduction in air pressure, closes, and in turn actuates the valves and stop lights. Air passes into the auxiliary tank from the main supply tank through a soft-seal type check valve, providing positive assurance that no back flow will occur. Air in this tank is not used in normal operation.



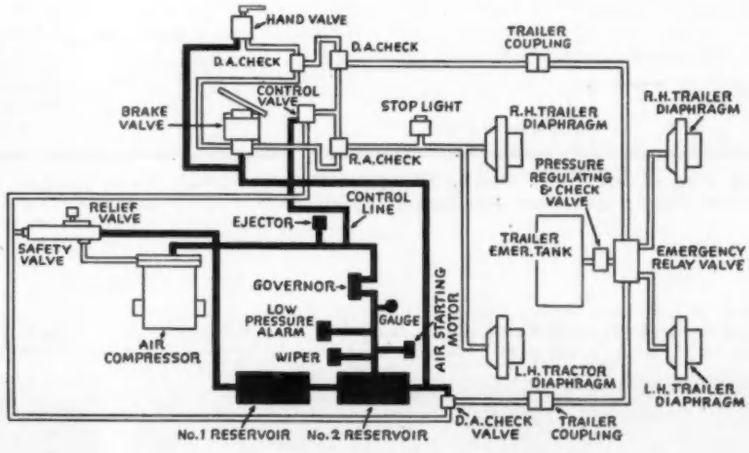
The Everready valve is mounted in the auxiliary tank. Installation is completed by disconnecting present brake hoses at the diaphragms and connecting these to the valve. In normal operation, service air passes directly through the valve to the brake diaphragms. If the Everready valve is actuated, the normal circuit is closed off at the valve, and the emergency circuit is opened at the auxiliary tank. This provides that maximum operating air pressure is supplied to the brakes at a sufficient rate to stop the vehicle under controlled conditions.



Berg System

This dual control breakaway valve developed by Berg Mfg. & Sales Co., protects the tractor both automatically and manually against loss of air pressure occurring in the trailer air brake system. This valve seals the tractor air system automatically in an emergency, or if the driver forgets, when the trailer lines show a loss of air pressure below approximately 50 lb.

A manual valve located on the dash permits the driver to release the brakes after an emergency application so that he can pull his vehicle off the road to a position of safety. With this valve the driver can charge the trailer air lines from the cab, without leaving the wheel.



George System

The system developed by George Mfg. Co. provides for air pressure direct to the brake chambers at all times while the compressor is running. A valve-manifold arrangement located at the compressor makes it possible to by-pass the regular system in event of failure of any of the units.

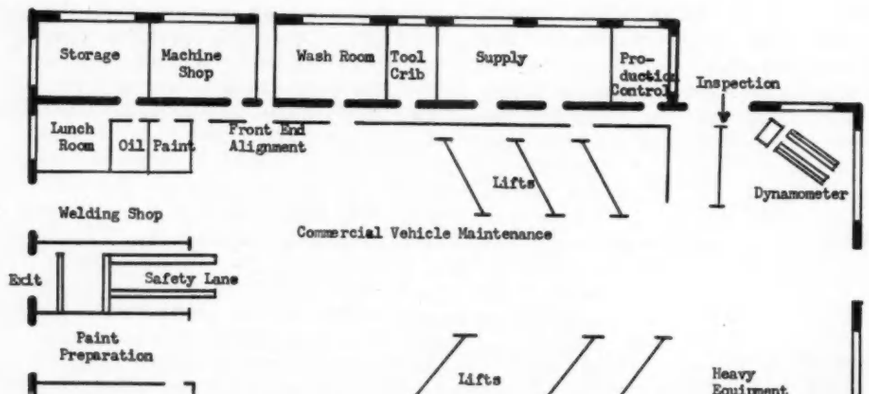
The driver is in full control of the brake applications at all times. The safety system is accomplished by an automatic valve that cuts itself into the system at predetermined times and conditions.

Two distinct functions are provided; (1) it provides braking power within a very few seconds from the starting of the engine, preventing the movement of vehicles without brake power, and (2) it operates automatically every time the reservoir air pressure drops to 60 lb.

(TURN TO PAGE 122, PLEASE)

Air Force

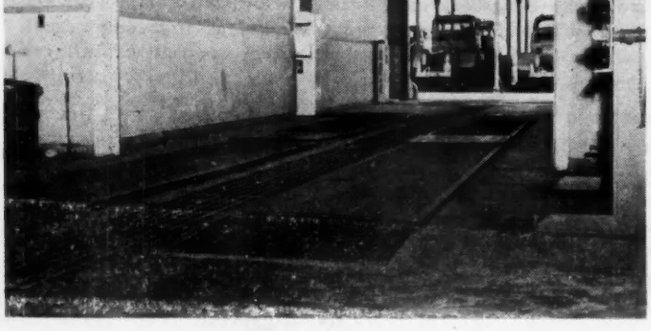
Maintenance equipment, methods, controls and records in test installation before they are made a part of Air



Floor plan of Air Force Smoky Hill pilot shop at Salina, Kan., reveals efficient layout, excellent equipment. Photo above shows exterior view

Since it's your money they're spending, we believe all fleetmen will be interested in the methods the armed forces use to operate and maintain their vehicles efficiently and at minimum cost. Under the armed services unification plan, the same basic program is followed by each branch. The changeover from military to commercial-type vehicles, with the Army as an example, was described previously (September 1954, page 90). The accompanying article describes the use of model shops, as illustrated by Air Force procedure. A future article will describe the Navy's use of the vehicle-maintenance cost control system—The Editors

Safety lane (left center of plan) includes four position brake tester and "scuff gage" for checking wheel alignment



Main shop interior looking past lifts on sides toward paint shop, safety lane and welding shop at far end

Model Shop Sets New PM Pace

are tested for effectiveness

Force standard procedure

IN A MANUFACTURING operation, it's a common practice to establish a pilot project before going into full-scale production. As part of its "new look" maintenance program, the Air Force has adopted this principle, now uses pilot shops to test methods and equipment before establishing them as standard operating procedure.

Use of pilot shops was stimulated around 1950 when the Air Force and other branches of the service were faced with a changeover from military to commercial-type vehicles. As a result of the change, operations under the existing system became increasingly difficult. Recognizing the need for improvement the Director of Maintenance Engineering, Headquarters, USAF, established a model shop at Bolling Air Force Base in August 1950. Basic purpose of the shop: To find out which combination of equipment and methods would result in the most efficient maintenance system.

In 1952, the Defense Department directed each military service to establish one or more automotive maintenance pilot shops. While the Bolling shop met most requirements of this order, it was a combination military-civilian operation, and did not represent true Air Force-wide conditions. Pilot shops were subsequently established at Wolters Air Force Base, Tex., and Smoky Hill Air Force Base, Kans. Views of the Smoky Hill shop are shown in the accompanying illustrations.

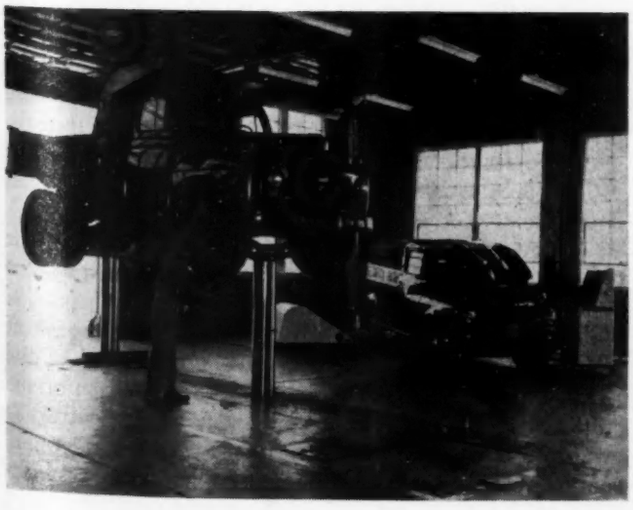
Central Control

One of the early results of the pilot shops was the development of a combined preventive and field maintenance program to be conducted in a central shop. Shop equipment was repositioned so vehicles could be rapidly inspected and repaired. The system was also modified so vehicles could be Inspected and Repaired as Necessary (IRAN). This reduced the workload and along with other improvements, resulted in better scheduling and production control, and made smaller staffs possible.

Centralized maintenance resulted in several changes

(TURN TO PAGE 118, PLEASE)

Multiple twin post lifts and chassis dynamometers are now standard equipment in more than 150 Air Force shops



One man in production control room handles vehicle flow, others write shop orders, keep truck repair records

S. A. E. NATIONAL TRANSPORTATION MEETING

Trial by Ins

Features "instrument panel" with four experts outlining time-saving, money-saving

In what was described as one of the best T and M meetings the Activity has ever put on, three half-day symposiums last month in St. Louis came up with some valuable information on Instrumentation, Cutting Maintenance Costs, Tire PM. Excerpts from the Instrumentation Panel appear here. Lack of space precludes a discussion of the other two, though complete papers may be purchased from the Society. The following are recommended for study by fleetmen: Vehicle Selection and Its Influence on Maintenance Costs, by Robert Cass, White Motor Co. The Driver and His Influence on Maintenance Costs, by W. W. Vandercook, F. J. Boutell Driveaway Co. Streamlined Maintenance Cuts Costs, by Warren A. Taussig, Burlington Truck Lines

Walter E. Davis
Cleveland Transit System

CLINICAL INSPECTION, as applied to the maintenance of equipment, machines, or apparatus, means an orderly procedure whereby the condition of the unit is ascertained before performing any of the operations of adjustment, repair, or removal.

In automotive maintenance, the practice of removing units on a calculated mileage or hours of service basis has never accomplished its purpose, in our opinion. The removal of units on a calculated average service basis has not eliminated the road service calls caused by premature failures. Even worse, it has caused, in the final analysis, the curtailment of life of the good units. This curtailment of life has cost many organizations, including our own, many thousands of dollars each year.

Guide to Service Life

In the ideal application of clinical inspection, the concept of average service life is not discontinued but is rather put to a more practical use. It is used as a guide to enter into a program of increasing the vigilance for signs of developing failure. This increased vigilance may necessitate more frequent diagnosis as well as more thorough and extended tests as major units achieve higher mileages.

Clinical inspection does not invalidate, replace, or obsolete preventive maintenance, but rather modifies a small but important part of its application. Furthermore, it incorporates nothing startlingly new.

"Health" of the Unit

In clinical inspection the "health" or exact condition of the unit is determined at periodic intervals which, when charted and studied, will permit the removal of the unit before it fails in service. As an example of the effect of the difference between these two ideologies, we have a fleet of 135 coaches of one make on which the average miles of operation of rebuilt engines is now approaching an average mileage at which the original engines were overhauled. From the condition of these engines at present, we know that the average mileage that we secure under the more modern system will be 50 per cent to 100 per cent greater than under the misapplication of the preventive maintenance system.

Coincident with the start of the development of our system of clinical inspection, we have gone to a 4000 and 24,000 mile inspection. The 4000 mile inspection is coincident with the servicing period of the coach at which time it is lubricated, oil changed, etc. At the 24,000 mile inspection, the "health" or condition of the units are ascertained by a systematic instrument check where such is indicated as necessary. Under this plan, as the instrument check indicates that units are func-

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Diagnosis

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Instruments

saving advantages of precision checks

H. A. Grenert
Cincinnati, Newport & Covington St. Rwy. Co.

Truck Lines, Inc. Tire papers you should have are: Tire Designs—Present and Future, by L. L. Baldwin, Firestone. How to Make Your Tires Help Your Maintenance, by G. M. Sprowls, Goodyear. Fleet Operator's Experience with Recapping and Repair, by E. B. Ogden, Consolidated Freightways. Progress in Tire Traction, by A. H. Easton, University of Wisconsin.

tioning satisfactorily, nothing more is done except for servicing operations and the vehicle returned to service.

Diagnosis Before Adjustment

We are all human beings and so is the mechanic. If any of us are handed a mechanical unit and told to adjust it, we would do so to the best of our ability. The mechanic is no different. If he is told to make the adjustments on an engine today and the same unit is brought back to him tomorrow, he will go through exactly the same process that he went through yesterday. We know, for instance, that if a mechanic pulls the bonnet off a diesel engine that he will go through the adjustment of the valve lash, the injector setting and check and adjust anything else that is under this bonnet. We, therefore, as far as possible insist that he knows what is wrong before he removes the bonnet. For instance, if the defect reported on a diesel engine is smoke in the exhaust, we want him to know whether or not it is a dribbling injector that is causing the smoking and which injector is the offender before he starts to make adjustments or replacements.

A good mechanic should no more think of performing adjustment, repair, or removal of a unit before he knows the condition of the unit than a surgeon should think of performing an operation on a human being before he knows the condition of the patient and what is to be accomplished in the operation.

THE USE of gages in trouble shooting and inspection saves many man hours of labor and now that we are beginning to think in terms of man minutes, its value increases tremendously.

We use a magnahelic gage on the air duct or inlet side of the air cleaner and one on the outlet or blower side of the air cleaner. The difference in readings indicates condition of filter unit. When depression reaches 20 in. through filter and only then unit is disassembled for cleaning. Under standard procedure we dropped air cleaners every 4000 miles, changed oil and sloshed cleaner unit in a solution, let it drain, then reinstalled. Much to our surprise, the gages showed cleaners were still dirty. Cincinnati Transit, working with a chemical company, found a solution that would restore filter to original point of cleanliness in about 30 min of agitation. The savings in replacement of oil in cleaners was $287 last year in my diesel fleet alone. A restriction of over 1 in. of water on inlet or air duct side indicates intake screens dirty.

Pressure Gages

Pressure gages are used on wind box for blower pressure, on exhaust manifold for muffler or tail pipe back pressure, on torque converters for working pressure. Torque converter pressure test on 4008 GM diesel is especially valuable in complaints of no power by pinpointing clutch slipping, cavitation and oversize restriction in gas off line troubles. Pressure test on V drives at idle indicates the condition of seal rings. On earlier model 90 transmissions using an aspirator, a vacuum gage indicates restricted filters or maladjustment of aspirator nozzle. Vacuum gage can also be used to determine condition of injector line check valve and injector nozzle condition.

Diesel fuel filters were changed every 16,000 miles because occasionally we had experienced road failures attributed to dirty filter units. We now use two pressure gages, one on outlet side of filter and the other on inlet side. With normal pump pressure on inlet side, we do not change filters until outlet pressure drops to 20 lb. With this type of test, our filter replacement costs dropped 36 per cent and road failures were eliminated. Fuel pump pressure, leaks in fuel suction line are readily disclosed in this test.

Pyrometer

The pyrometer has many uses. To name a few: Brake drum temperature for balance and distribution, engine thermostat operation, internal condition of radiator by measuring difference in temperature between upper and lower tanks. Engine jacket temperatures, for block deposits, for operation of proper seating of water bypass valve or thermostat. Checking operation of diversion valve, checking transmission cooler core condition. The pyrometer checks just mentioned are used entirely on trouble shooting.

(TURN TO NEXT PAGE, PLEASE)

Trial by Instruments

Continued from Page 77

W. W. Squier
Sun Electric Corp.

WHILE instrumentation can be applied in the broad sense to almost any phase of vehicle maintenance, instrumentation requirements are perhaps most severe or most essential in connection with engine and engine electrical maintenance problems. New engines in general are far more critical of the performance of the entire ignition system, fuels and carburetion, than were their predecessors. In terms of good fleet maintenance, these engine changes have resulted in a "narrowing" of tolerances in making initial settings or adjustments of the engine's important parts.

New Type Mechanic

Engineering improvements in vehicle power plants have created the demand for a new type of mechanic. A mechanic who will no longer rely wholly upon his sense of feel, sight, smell and hearing for the inspection and maintenance of the modern vehicle. For example, no matter how good the mechanic's sense of feel may be, he cannot feel two-tenths of a volt with his fingers; but instrumentation can provide him with fingers which will feel this difference in electrical potential. Similarly, no matter how fine a sense of smell a mechanic may have, he cannot inhale the exhaust of an engine and determine the air fuel ratio or combustion efficiency. However, here again instrumentation can provide him with a nose which will measure the air fuel ratio by analyzing a sample of the exhaust gas.

As test equipment makers, we prefer to see ourselves as actually implementing, or tooling the mechanic in order to supplement his natural senses and his mechanical experience with new fingers, eyes, ears, and nose in order that he can deal successfully with the new power plant with its more exacting requirements.

Test Equipment

In designing and developing good instrumentation for fleet maintenance, the test equipment maker has two masters, the item to be tested and the mechanic who will be using the tester. If the "brain child" of our test equipment engineering department can accurately and reliably obtain the needed information from the engine in the hands of the average mechanic, we feel that then, and only then, have we produced a saleable piece of test equipment.

No discussion of instrumentation and testing applied to fleet maintenance would be complete without fully recognizing the importance of adequate specifications. If known standards are not available to the mechanic for him to compare with the readings he takes from his own instruments, little or nothing is gained by testing.

R. W. Boland
Joseph Weidenhoff, Inc.

THE APPLICATION of ignition testing oscilloscopes in independent garages, large fleet operations and in the laboratory has proved the advantages of analysis by the oscilloscope, thus eliminating questionable determinations. The obvious advantage of the ignition testing oscilloscope is recognized by the fact that all the referred to engine components are tested and checked in their own natural working element. That is, under heat, compression and vibration.

Oscilloscope Operation

We actually view a trace of what is taking place in the primary circuit of the ignition system which also includes a reflection of what is taking place in the secondary circuit of the ignition system. This is possible as a result of the well known and accepted phenomenon that whatever takes place in a secondary circuit as a result of transformation will also have its reaction in the input or primary circuit. We now have a trace which displays the results of both primary input and secondary output.

The primary voltage with the capacitor and means for breaking the circuit considered is fed to the vertical plates of the cathode-ray tube through a filtered network of the oscilloscope and then to ground. Variations in voltage between these two points provide the vertical deflections of the beam on the cathode-ray tube.

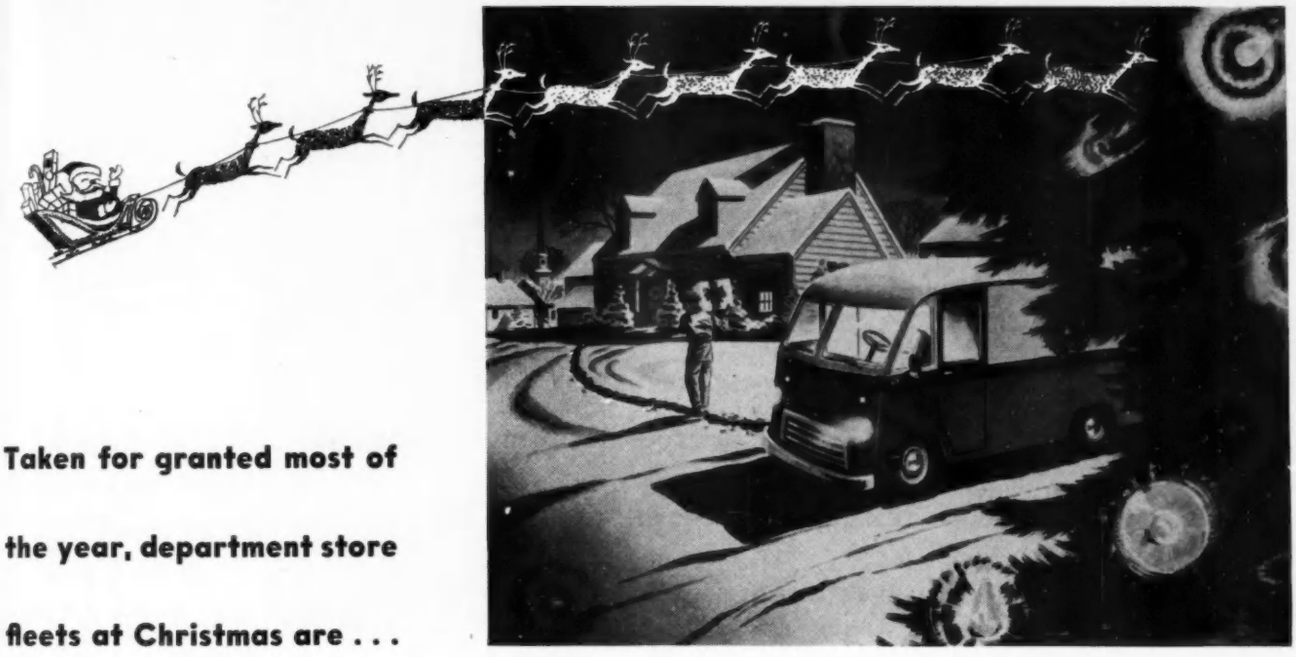
The connection to the spark plug from the scope lead is fed through the horizontal deflection circuit and to the horizontal plates of the cathode-ray tube. The sweep time is equal to one complete ignition cycle per cylinder for all cylinders concerned, that is, one in which all cylinders fire once. The time base is triggered by the one spark plug the instrument is connected to. Being repetitive and synchronized with the engine, what appears to be stationary images are actually voltage fluctuations reflected on the cathode-ray tube.

25 Ignition Checks

This method of analysis by the oscilloscope was designed and developed for use in the service field and has proved its accuracy and time saving ability in activities from high speed racing to heavy freight hauling. It is a means of analysis that provides in excess of 25 ignition checks on both battery and magneto ignition systems.

Other Readings Possible

Compression factors are studied through the position of a point which reflects the voltage requirement at the spark plug electrodes. Piston rings and valve action affect this point and consequently their action and condition are interpreted. The compression factors revealed by the oscilloscope are extremely important as static compression tests are not providing completely satisfactory service in the modern short stroke engines of today.



Taken for granted most of the year, department store fleets at Christmas are . . .

Modern Reindeer on Wheels

WITH THE nation again on its annual Christmas shopping spree, this month offers an excellent opportunity to salute the department store truck fleets (see cover). Seldom given the credit they deserve, this small but important segment of the trucking industry is now busily engaged in making sure that gifts are delivered in time.

It's a busy time for the fleets, since during the months of November and December the stores handle more than 25 per cent of their annual business volume. And, thanks to trucks, most stores can promise that purchases made even as late as December 24 will be delivered in time for Christmas day.

Year-round Role

While this is their busiest season, department store trucks fill an important role throughout the year. Delivering purchases is their major job, but they also are used to move goods from the warehouse to the store, and for appliance, upholstering and decorating servicemen.

Currently enjoying what promises to be a record year, department store sales are expected to reach at least $180 billion, may go as high as $185 billion. Of these total sales, between $60 and $63 billion will be delivered by truck.

About half the nation's department stores have their own truck fleets. The rest have delivery agreements with other firms. The largest of these, United Parcel Service, which now operates in 14 metropolitan areas, employs a staff of about 8000 throughout the year.

In the New York metropolitan area alone, UPS serves all department stores plus about 400 specialty shops. Through its 51 substations it delivers an average of 150,000 packages daily and, during its 25 years in New York, has delivered an estimated 750 million parcels. Now the nation's largest parcel delivery service, UPS is rivalled only by the Post Office's parcel post service in the small package field, while the Railway Express Agency leads it in the delivery of larger packages.

Store Fleet Facts

On the basis of latest available data, the average store-owned fleet has about 20 units, most of which are less than 10 years old. The typical department store truck covers less than 80 miles a day, with most of them averaging between 40 and 60 miles. Few trucks travel more than 150,000 miles before being replaced, and most are replaced before 125,000 miles.

An important part of the stores' marketing picture, trucks have made it possible for city stores to expand their delivery range to keep up with their customers as they move further and further into the suburbs. Once limited to the eight-mile range of a horse and wagon, stores can now offer next-day delivery on many items to customers as far as 60 or more miles away.

The Fleet Operator's Stake in

The WASHO Road Test

The official report, finally released last month, says, ". . . most failures developed in those sections that were considered underdesigned according to current standards"

UNLIKE THE ill-famed Maryland Road Test of 1950, the WASHO Road Test of 1952, 1953 and 1954 permitted no interim findings, no prying eyes of outside interests. All results were strictly classified until the final report was issued early last month by the Highway Research Board.

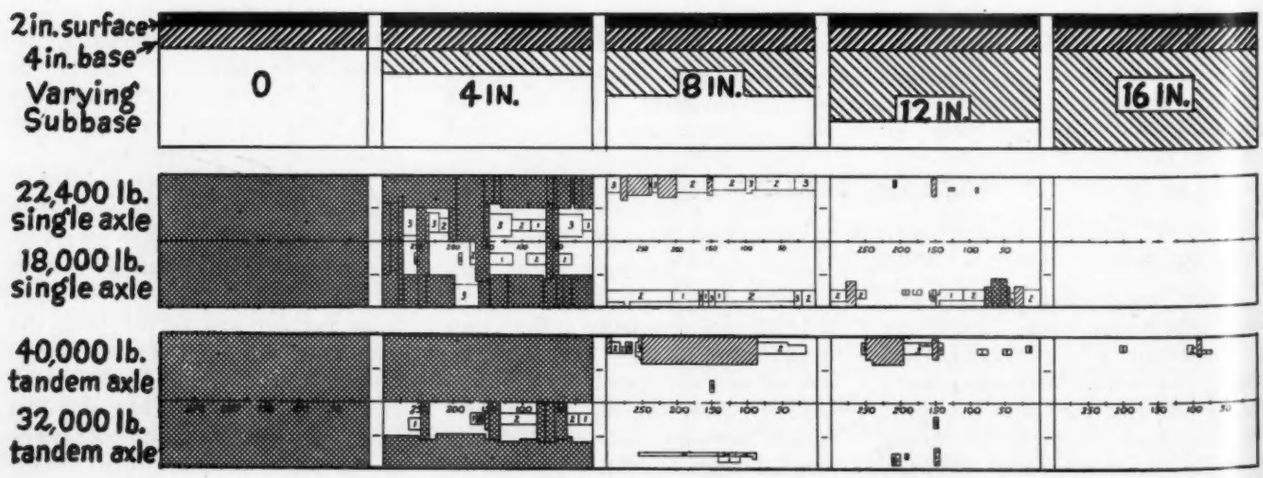
Highlights of the Test

At this writing, no one knows what use may be made of this report by anti-truck interests. But to be on safe ground, truck fleet operators should have a basic conception of what the test purported to do and some idea of at least the highlights of the test results. That is the purpose of this article. Readers interested in the full 212-page report should ask for a copy of Special Report 22, published by the Highway Research Board, 2101 Constitution Ave., Washington 25, D. C.

Again definitely unlike the Maryland Road Test which used an existing piece of Portland cement concrete highway, the WASHO Road Test was conducted on a specially constructed section of bituminous asphalt near Malad, Idaho. Purpose of the test, says the report, was ". . . to determine the effect of various axle loads on certain designs of flexible pavements."

As illustrated in the diagrams below, two basic types of highway—one with a 2-in. surface and 4-in. base (at left) and one with a 4-in. surface and 2-in. base (at right)—were tested with 18,000- and 22,400-lb single-

Half of the test road had a 2-in. surface, 4-in. base, 0 to 16-in. sub-base. Diagrams below illustrate condition of this section at close of test, show comparative effect of the four different axle loadings tested in the WASHO road test



axle loads and with 32,000- and 40,000-lb tandem-axle loads. In each of the eight test lanes, the sub-base varied from nothing to 16 in. in depth. In the diagrams (taken directly from the test report), the under-designed sections with little or no sub-base are on the left with the sub-base increasing in 4-in. increments moving to the right.

Underdesigned Sections

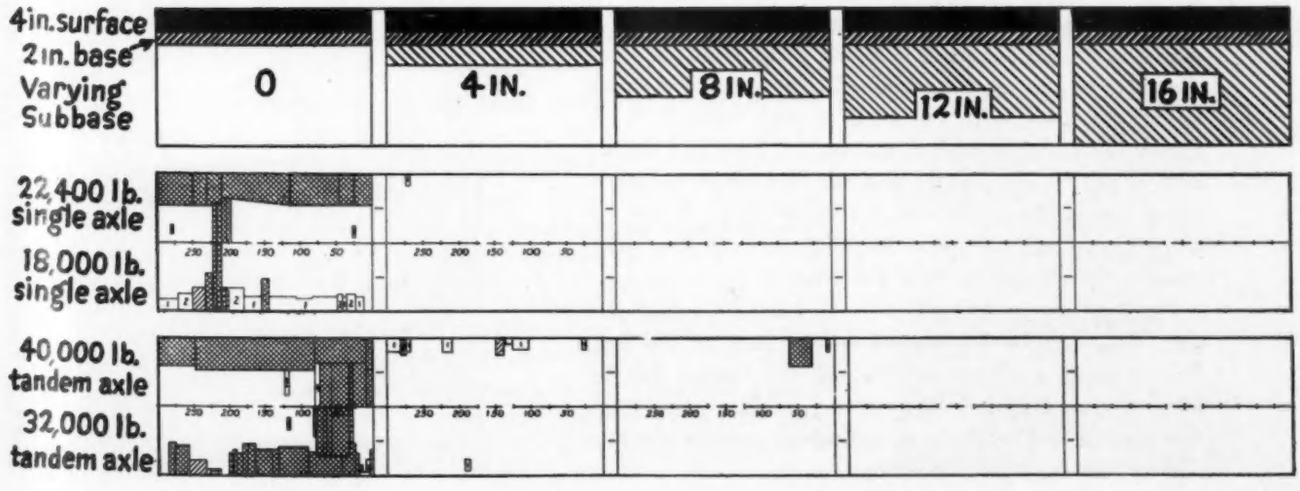
It is important to remember that much of the test road was designed for failure. Says one of the opening paragraphs of the report, "It should be noted that most failures developed in those sections that were considered under-designed according to current standards."

Further amplification is contained in a special report on the test's findings by H. A. (Mike) Flanakin, highway engineer for American Trucking Assns. and a member of the WASHO Road Test Advisory Committee. He says, "The test was conceived as a break-up experiment, for distress figures could be obtained only if cracks developed. Seventy per cent of the total test area was under-designed for the heavy concentration of trucks and was expected to fail. . . .

"It is most significant that 74 per cent of all the test area withstood all of the test loads without distress of any kind. Only the two most under-designed sections showed the serious cracking that had been expected

(TURN TO PAGE 108, PLEASE)

Other half of test road had a 4-in. surface, 2-in. base, 0 to 16-in. sub-base. As illustrated below, this design stood up better than the one on facing page. Road diagrams on both pages were taken directly from test report



Shop Hints

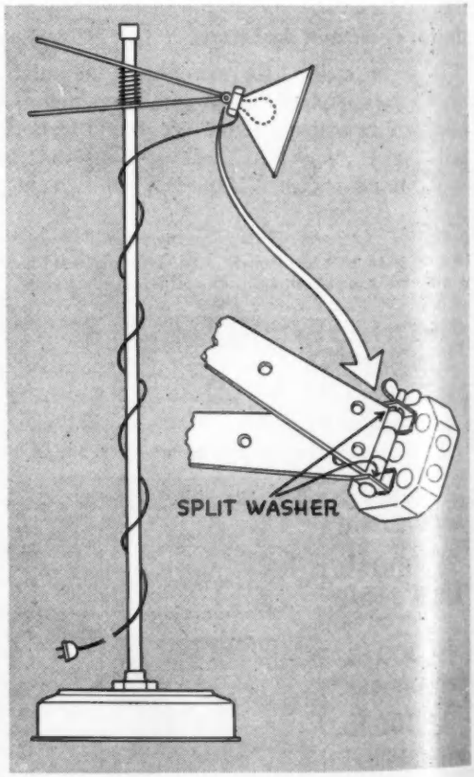
Make a simple drawing of your home-made tools. Take a picture of the shop equipment you have built. Send us a brief description. We will pay $10 and $25 to those who submit good ideas for improving maintenance

Adjustable Shop Light

By Casimir J. Ostrowski, Chicago

This adjustable shop can light can be easily made from odds and ends, starting with an old brake drum for the base. A section of pipe is capped at one end and attached to the drum at the other by screwing it into a pipe flange welded to the drum. The light hanger is made by drilling two holes in an old strap hinge the same diameter as the pipe, and inserting an old valve spring inside the hinge with the pipe running through it, as shown. By compressing the spring, the holes will line up and allow the hanger to slide up and down the pipe. When the hinge is released, the valve spring forces the hinge apart and distorts the alignment of the holes, causing the hanger to grip the pipe.

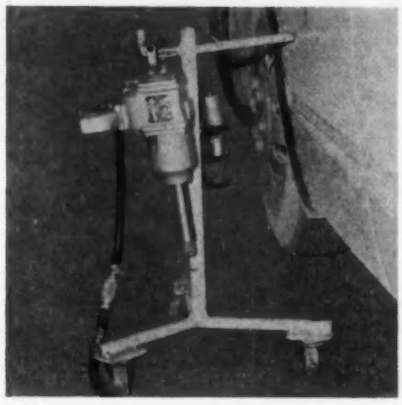
The light fixture is made from a standard receptacle box. Two flanges are welded to the back of the box. The hinge pin is driven out. Through the flanges and the hinge is run a bolt and wing nut to provide a swivel joint. Two split or lock washers, as indicated, provide the tension to hold the light in position.



Portable Stand Eases Air Tool Handling

From the shops of Intertown Suburban Lines, Dearborn, Mich.

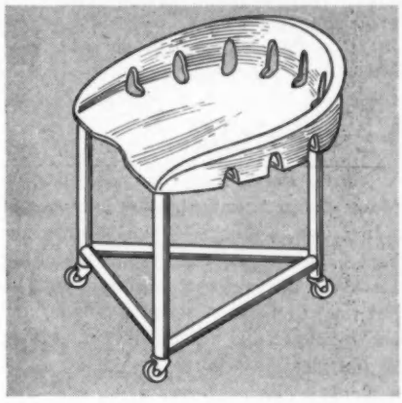
A few lengths of pipe of various diameters and three casters were all that was needed to make this handy support for heavy shop tools. Casters were welded to three legs. From the intersection of the legs, another pipe was welded vertically. A smaller diameter pipe through the top of this one provides a hanger for the shop's heavy-duty air gun and basic accessories.



Wheeled Stool Made from Tractor Seat

From the shops of Machine and Welding Co., Fayetteville, N. C.

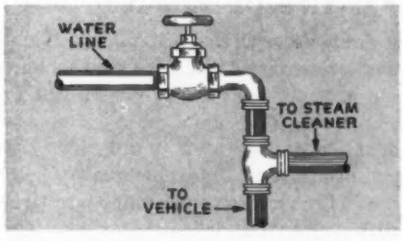
We use three of these handy seats on casters. Each consists of the seat from a tractor or other farm implement to which three 10-in. sections of 1¼-in. iron pipe have been welded, one at each of the front corners and one in the middle of the back. Strips of flat bar stock serve as cross braces at the bottom, and casters are brazed to the bottom of the legs. A shallow tray of sheet metal can be laid across the braces to hold tools and small parts.



Steam Cleaner Provides Hot Water

By F. J. Highberger, Sheeley Baking Co., Emporia, Kan.

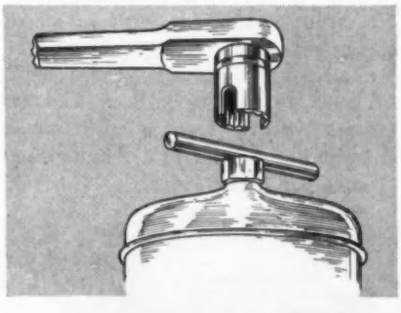
With this connection to a cold water tap, a steam cleaner can be used to provide hot water for vehicle washing. Connecting the hose to the steam cleaner and to a fountain brush, as indicated, we have speeded our vehicle washing. We regulate the steamer to get the desired temperature of water at the brush, using a mild car-wash soap in the steam cleaner's soap container. For a clean rinse, we merely shut off the steam cleaner.



Notched Socket to Remove Oil Filter

By Elmer C. Shirey, Fort Wayne, Ind.

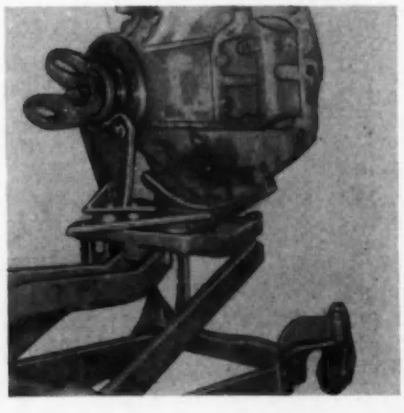
This notched socket comes in handy when removing the lids of oil filters equipped with "T" handles. It is easy to make. Just take a 1-in. socket and grind out a notch to accommodate the "T" handle. Use it with a regular ratchet handle. This does not impair the use of the socket for other nuts and bolts.



Floor Jack Speeds Differential Work

By Richard D. Reiber, York, Pa.

With this attachment, which we made to fit our floor jack, one man can remove or replace a differential with a minimum of effort without the chance of the unit falling or becoming out of line. The base is made from the flange end of a broken axle with a 2-in. section of shaft remaining. A 12 x 3 x ½-in. piece of flat iron is welded to it with slots cut into it to provide a slide for a triangular support. A section of 1-in. sq bar stock is curved to fit the differential and welded to the rear of the flange. This assembly is placed in a flange tube fastened to the floor jack, thus allowing the jig to be rotated. The triangular support is made from ⅜-in. flat iron and shaped to fit various pinion cages. To raise or lower this support, spacers are used under it. Oblong holes cut in the top of the triangular support provide a place to bolt the differential to the jig.



New PRODUCTS

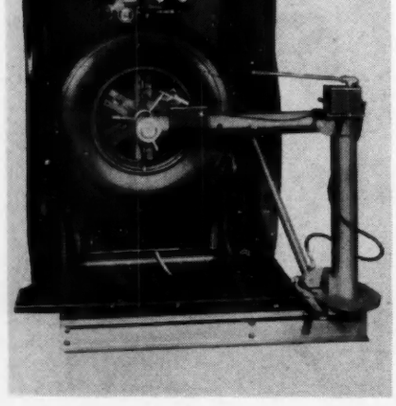
The latest developments in parts, accessories, tools and equipment for the fleet field, described in brief for your convenience

P1. Cold Solder

Alvin Products, Inc., Worcester, Mass., is producing a new cold metal solder, "Lab-Metal." An aluminum-based compound, it is a moldable metal in paste form. Upon drying it hardens to form a strong, permanent bond to metal, wood, plaster, glass, or plastic.

P2. Tire De-Skidder

John Bean Division, Lansing, Mich., has a new tire de-skidder said to handle any size passenger car, truck or bus tire. The unit employs a hydraulically operated boom for tire mounting, and interchangeable self-centering chucks to accommodate tires with or without wheels or rims. The new De-Skidder, designated as Model No. 1000A, functions with equal efficiency on either conventional or tubeless tires. It cross cuts to any depth up to 5/16 in. on both in and out strokes, slitting from a minimum of one cut per 1½ in. to a maximum of 11 cuts per inch.



P3. Ladder Platform

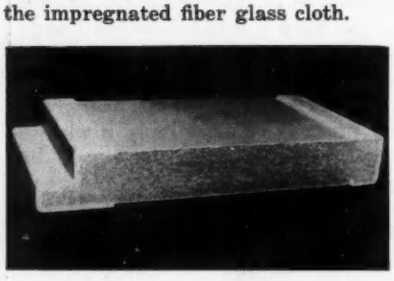
J. H. Holan Corp., Cleveland, Ohio, announces an aerial ladder platform assembly with a two-level platform to give sure footing regardless of ladder angle. For both working positions, the floor can be adjusted with a levelling bar. This aluminum platform has a non-skid Kass safety tread floor. It will be an optional feature on all Holan mechanical and hydraulic ladders and can be installed on models already in use.

P4. Cylinder Sleeves

Dura-Bond Engine Parts Co., Palo Alto, Calif., announces its "Dura-Cast" cylinder sleeves. A new process, utilizing centrifugally cast Type "A" graphite iron, is said to assure a perfect hardness of 240 Brinell. The improved sleeves are also said to meet, and in some cases exceed, the exact specifications of the original equipment manufacturers.

P5. Body Panel

Haskelite Mfg. Co., Grand Rapids, Mich., is marketing a new plastic insulated sandwich construction panel. The Basic "Hasko-Struct" panel consists of .032 thickness polyester resin impregnated fiber glass cloth faces bonded to a 2# density "Styrofoam" core. The edges are covered with .060 thickness "Hasko-Mold" channels of the impregnated fiber glass cloth.

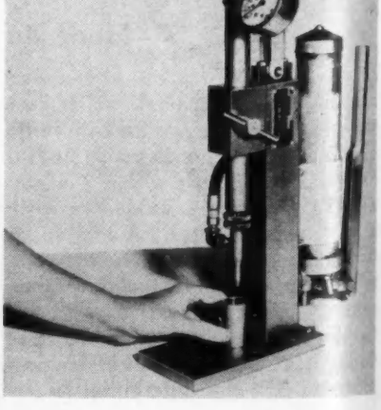


P6. Panel Fasteners

Southco Division, South Chester Corp., Lester, Pa., says light weight, positive locking is provided by its new fast-acting quarter-turn "Lion" fasteners which can be opened and closed repeatedly. For holding plates of metal, plastic or plywood pressure tight, "Lion" fasteners are designed to withstand shock, vibration and extreme stress. They lock with a quick quarter turn clockwise. Reverse action unlocks.

P7. Valve Lifter Tool

Ernest Holmes Co., Chattanooga, Tenn., announces a new machine for servicing hydraulic valve lifters. Disassembly is accomplished by removing plunger retainer, jarring out push rod seat, placing valve lifter under servicer stem and simply pumping the plunger out. For testing of lifters, the Holmes servicer is furnished with a cup and necessary sleeves of type and size to fit all hydraulic valve lifters.



P8. Oil Filter

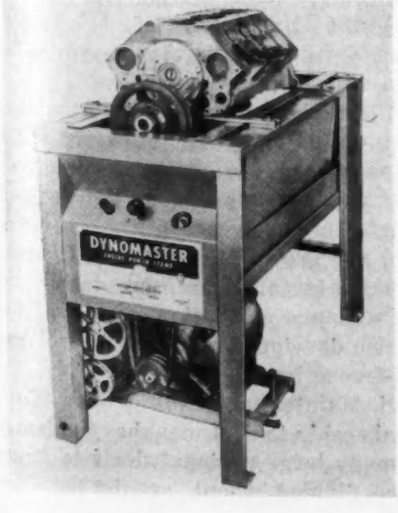
Purolator Products, Inc., Rahway, N. J., announces its new PT-750 "Micropak" oil filter. The filtering material used in the PT-750 is uniformly cut resin-impregnated cellulose. The element is based on the depth filtration principle, but with a new concept known as angular depth filtration. The perforated inlet area located around the center of the can is designed to divide the oil flow as it enters the filter pack into hundreds of small streams. The outlets for the elements are located near the top and bottom of the center tube thus forcing the oil to travel from the center to either end before being released into the oil stream. The greater distance resulting from the angular depth design provides maximum filtration.

P9. Air Brake Filter

National Transport Supply, Inc., Detroit, announces the "Wisenbaugh" air brake system filter. It is designed to aid air and vacuum braking systems by keeping the lines clear of foreign matter. The maker says, it is adaptable to all tractor and trailer units equipped with air or vacuum.

P10. Engine Test Stand

Storm-Vulcan, Inc., Dallas, Texas is now offering its Model No. D-1 engine run-in and test stand for all automotive and truck gasoline engines. Says Storm-Vulcan, features of this machine are: (1) flushes inner engine with oil under pressure, (2) engines are tested with or without oil pan, (3) tests entire lubrication system and provides means for adjusting oil relief valves, (4) tests surfaces for proper clearances, (5) tests valves, tapets, and push rods.



P11. Portable Band Saw

Porter-Cable Machine Co., Syracuse, N. Y., announces a new high-speed steel blade for a portable electric band saw to make it possible to cut most tough metal materials such as stainless steel, carbon tool steel, nickel, and high speed tool steel. It is specifically designed for use with the new Model No. 524 "Porta-Band" saw.

P12. Dock Truck Leveler

Rowe Methods, Inc., Cleveland, Ohio, has introduced a new model adjustable truck leveling device for loading docks. Known as the "Adjust-A-Truck," the unit is built into the pavement in front of a loading dock, and by means of a heavy-duty hydraulic system, raises or lowers an over-the-road truck or trailer until the bed of the vehicle is even with the dock. The new model has a capacity of 40,000 lb, with standard units measuring 12 ft in length, with a choice of either nine or ten-ft widths. The dock is constructed of ½-inch nonskid steel floor-plate; framework is rigidly welded and reinforced with an extra heavy "X" frame.

P13. Fifth Wheel

DeLay Industries, Inc., St. Louis, Mo., announces a moveable fifth wheel mechanism designed to make tractor-trailer coupling far more flexible. Fifth wheel slides along a track of any length and can be located anywhere at 3-in. intervals while coupled to fully-loaded trailer. With this unit, axle load weights can be adjusted for better distribution of weight between steering and drive axles. It is advantageous in instances where trailer landing gear is not set for 3-axle tractors. It is possible to move the fifth wheel to the rear for clearance between the fifth wheel and the landing gear. Fifth wheel adjustment will equalize the load on tractor axles regardless of king-pin setting. In bridge formula states, the bridge can be extended to maximize payloads. The new units are so designed that most any shop can install them on new or used tractors.

P14. Engine Hour Meter

John W. Hobbs Corp., Springfield, Ill., announces that a new "direct-reading" meter has just been added to the Hobbs line of engine hour meters. Black figures show at a glance the total number of hours an engine has been operating; red figure at right indicates tenths of hours (6 minutes). A rotating disc in the upper left segment of the face of the meter acts as an operating indicator, making one revolution a minute. The meter registers up to 10,000 hours, then returns to zero. Timing mechanism is an electrically wound clock which records the hours and minutes of engine operation.

P15. Tire Balancer

Big Four Industries, Inc., Cincinnati, Ohio, has introduced a new tire balancer. It is said to handle a complete job of tire truing, grooving, deskidding, and balancing in less than 10 min. A rotary flared-cup knife cuts away the tire rubber that forms trouble-making "high spots." Rounding cutter of high-grade tungsten is automatically regulated to follow contour of the tire. Designed for passen-

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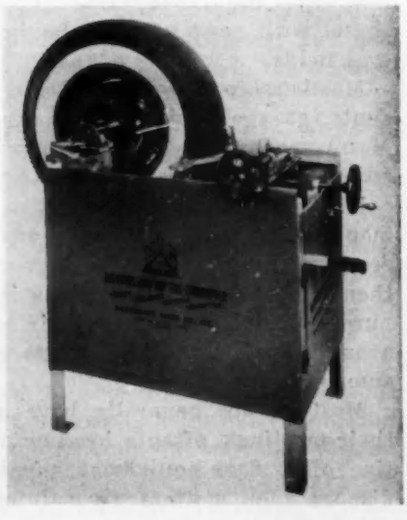
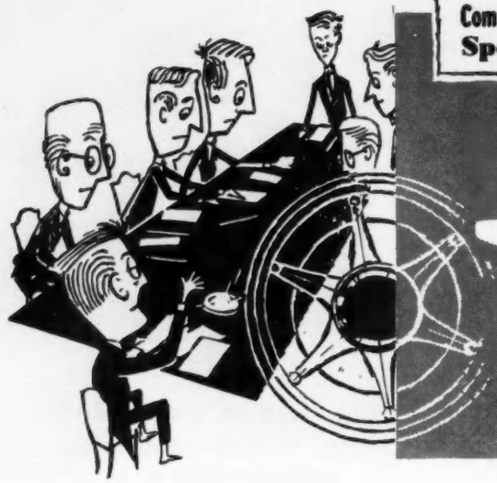




Commercial Car Journal
Special Report

You... and your Local Fleet Superintendents Assn.

FLEET SUPERVISORS associations are now active in 13 communities of which we know. There may be others. Offering their members distinct advantages in return for a relatively small investment of time and effort, these organizations are potentially among the most valuable groups to which a fleet supervisor can belong.

A few of the advantages: opportunity to discuss and act on mutual problems with other fleetmen in the same community, to hear experts discuss problems and new developments, to establish a personal relationship with other fleetmen in the community. The price: a low membership fee, and a couple of hours a month to attend the meetings.

Despite the apparent bargain, many communities lack these groups, many existing groups find difficulty at times in maintaining membership interest and attendance at meetings. More about that later.

Group Activities

Existing local groups are generally concerned with four main topics: maintenance, fleet management, safety, and local regulations. Few groups, however, limit themselves strictly to any one of these, with most of them having activities in several fields.

Membership is generally open to fleet superintendents, garage managers, or other fleet supervisors. Many groups also include supplier representatives, either as full members or as non-voting associates.

Most popular practice is to hold meetings at monthly intervals, although some groups have less-frequent meetings, make more of a production of them. Most local associations include at least one purely social event on their calendar, generally around Christmas time. Some groups also hold a summer outing.

Most groups generally have a guest speaker at their meetings, often a local or national representative of a fleet equipment supplier. The speakers discuss such matters as maintenance problems or new developments, then take part in a question-and-answer session after their formal presentation. Talks are often illustrated with slides or moving pictures.

Active Programs

Beyond this basic program, there are many activities which local organizations can conduct. Here are some examples:

In Seattle, Washington, the Seattle Chapter of the National Association of Fleet Supervisors (apparently there are no other chapters) concentrates on safety, fleet management and public relations. It is active in the Fleet Section of the state's Governor's Safety Conference; administers an annual award for outstanding achievements in fleet safety; promotes driver training in high schools; works toward improvement of driver training and selection locally and nationally through the National Committee for Motor Fleet Supervisor Training and other organizations.

The Midwest Fleet Safety Supervisors Association, Minneapolis, in addition to its regular meetings and field trips, has sponsored and carried out several short courses at the University of Minnesota. Courses have been devoted to driver training, top management, shop safety and supervision.

The Oklahoma Fleet Supervisors' Roundtable concentrates on joint action to promote safety. The group has participated in all state and local safety campaigns, also provides judges for high school driver-training contests each year.

In Akron, Ohio, the Fleet Maintenance Council has worked with manufacturers' representatives in developing a maintenance education program for its members, has also developed a system for volume purchases of anti-freeze by its members.

The Motor Truck Maintenance Club of New York City limits its membership to fleet men, has the headquarters staff of many large national fleets to draw on. Programs are divided about evenly between

LAST OF A SERIES

This is the final article in a series devoted to the organizations serving the motor carrier industry. Previous articles in the series have described the activities and benefits offered by a number of national, state, and vocational organizations.

You can swap ideas, find answers to annoying problems, meet your fellow fleetmen by participating in your local truck maintenance group. Panel discussions, outside experts, social get-togethers are all included

presentations by manufacturers and round-table discussions among the members. The last panel discussion was on the procurement and placement of new equipment. It developed so much discussion that the topic is to be continued at the group's next meeting.

A second group in New York, the Society of Fleet Supervisors, Inc., has included several operating cost surveys among its projects. These surveys, combined with the usual exchange of information among members have aided fleetmen in comparing their performance records against those of other similar fleets.

In North Carolina, fleet maintenance men are affiliated with the North Carolina Motor Carriers Association in the group's Maintenance Council. A new group, the Maintenance Council has just completed a year of meetings at which equipment suppliers discussed developments in their field.

The Kansas City Fleet Maintenance Association breaks up its regular program with an annual "Bosses' Night" to which the members invite their superiors.

The Fleet Maintenance Association of Philadelphia limits its activities to its monthly meetings, but varies the regular program with occasional field trips.

In Buffalo, monthly meetings were found to have limited appeal, so the Truck and Bus Maintenance Association established quarterly dinner meetings, with special programs, included the price of the dinner in the dues so that members not attending the meetings were in effect passing up events for which they had already paid. To publicize its activities, the group has an arrangement with the local auto trade magazines to devote a section to fleet activities.

Need Spark Plugs

The examples described above indicate the possibilities for an active local group of fleetmen. The scope of a fleet supervisors' organization can be immense, provided its officers and members have the necessary interest and enthusiasm.

There's an obvious need for spark-plugs, both in existing organizations and in communities where there are now no local fleet associations. For existing associations, there's a real need to evaluate the program of activities in terms of the members' needs and interests and to conduct an active campaign to obtain as many new members as possible.

For fleet managements, there's a need to appreciate the potential of active local fleet associations: as a source of information and training for fleet supervisors, as a training ground for younger supervisors, as an organization through which local public relations activities may be carried out. The local group can perform a valuable function for private and for-hire truck operators and for bus men.

For fleetmen in communities which do not have a local fleet supervisors' association, there's a job waiting to be done. In some areas, a new organization might be established by class members of any of the fleet supervisor training courses which are sponsored by the National Committee for Motor Fleet Supervisor Training. Another starting point might well be to organize a group of local fleetmen to take part in such a course and retain the organization after the course is completed.

A recent letter to the members of one local association from their president sums up the attitude needed for a successful organization:

" . . . We can progress only through an active group dedicated to a better and more active organization. The attitude of going on from month to month, one more meeting, has got to be over. . . . We must attract men who are actively engaged in fleet maintenance and who want to keep up with the constant changes in ideas for progress in maintenance. . . . Each of us owe it to ourselves and our companies to learn more about the work being done and to be done. . . . The necessity to learn is greater today than ever."

Fleetman's LIBRARY

For free publications included in this list of new fleet maintenance and safety literature, use the reader service postcard

Transportation Policy Summary

Next month when Congress convenes to consider changes in the Interstate Commerce Act, a mass of material slanted towards the railroad's view will make its appearance. Unless truck operators have the facts and spread those facts in their own communities and operating areas, the railroads will be successful in shaping transportation policy to their interest.

Fruehauf Trailer Co. is making available to fleet operators a 70-page review of National Transportation Policy to provide those facts. Written by John S. Worley, University of Michigan Professor Emeritus of Transportation Engineering, the booklet provides fleet operators with the information needed to convince legislators and the public of the need for a fair, impartial and continuing Transportation Policy.

Fleet operators need this booklet so as to more intelligently attain a just and reasonable Transportation Policy in 1956. As a step in your efforts to keep Transportation Policy from being "railroaded," **circle L 1 on the postcard on page 84 for your free copy** of this excellent summary.

Motor Truck Facts

Here's Automobile Manufacturers Assn.'s annual booklet summarizing the statistical facts on the nation's truck and bus industry—the 1955 edition of "Motor Truck Facts."

Most interesting sections of the book are those devoted to the facts of how much the nation depends on trucks.

To get a copy of this booklet to bring you up-to-date on the importance of the trucking industry, **circle L 2 on the postcard on page 84.**

Lubricant Storage and Handling Data

While much of this booklet is devoted to conditioning and filling of lubricant containing drums by the refiner, the last part does contain several important tips for the fleet operator on lubricant storage and handling. It is the September issue of "Lubrication" published by the Texas Co.

The dangers of leakage and the hazards of contamination are reviewed together with comment on the effects of temperature and the consequences of mixing grades or brands. There are three handy check lists—(1) unloading —five points, (2) storage—nine points and (3) dispensing—seven points.

To keep your lubricants safely, circle L 3 on the postcard on page 84 for a free copy of this publication.

ICC Lighting Regulations

R. E. Dietz Co. is making available a handy, two-page sheet giving the full text of the Interstate Commerce Commission's Safety Regulations insofar as they apply to lighting of trucks, buses, tractors, trailers and combinations. It covers paragraphs 193.1 to 193.80 and 192.22 to 192.26.

Included are a full set of vehicle diagrams in two colors illustrating the location of lights and reflectors on various types of vehicles as well as the position of emergency flares.

For your free copy of these lighting regs, circle L 4 on the postcard on page 84.

Vehicle Size and Weight Summary

This is another handy, two-page summary of important regulation affecting fleet operations. It is the newly revised (September, 1955) state size and weight limit chart published by Truck-Trailer Manufacturers Assn.

For your free copy of this handy reference guide, circle L 5 on the postcard on page 84.

Tubeless Tire Servicing Chart

Dayton Rubber Co. is offering a 22¼ x 34-in., two-color wall chart on servicing of tubeless tires. The chart explains and illustrates steps to be taken prior to mounting and demounting and on repairs for (1) internal and permanent repair of puncture holes up to ¼ in., (2) for internal and permanent repair of breaks, cuts or punctures over ¼ in., and (3) for external and temporary repair of punctures up to ½ in.

To get your free copy for use in your fleet shop, circle L 6 on the postcard on page 84.

(TURN TO PAGE 124, PLEASE)

INDEX OF 1955 FEATURES

CCJ

Listing the year's features under 14 subjects, making it easy to locate articles for re-reading or putting to work

For regular departmental features, see index on page 2 of each issue. Articles marked with a * feature bus operation

CONVENTIONS & ASSOCIATIONS

	Month, Page
You and the Society of Automotive Engineers	Jan. 69
Society of Automotive Engineers Annual Meeting	Feb. 66
You and the Private Truck Council of America	Feb. 77
ATA Reg. Com. Car. Conf. Board of Governors Meeting	Mar. 68
Private Truck Council of America Annual Meeting	Mar. 68
Truck-Trailer Manufacturers Assn. Annual Meeting	Mar. 68
You and the National Highway Users Conference	Mar. 79
You and the National Safety Council	May 83
Joint Motor Vehicle Committee, AGA-EEI, Annual Meeting	May 87
*You and the Bus Associations (aTa, NAMBO)	June 90
ATA E & M Council and Safety Supervisors Spring Meetings	June 96
ATA National Tank Truck Carriers Annual Convention	July 66
National Committee for Fleet Supervisor Training	July 69
Society of Automotive Engineers Summer Meeting	July 76, Aug. 66
You and the Automobile Manufacturers Assn.	Aug. 90
You and the Truck-Trailer Manufacturers Assn.	Aug. 90
You and the Truck Body and Equipment Assn.	Aug. 90
Society of Automotive Engineers West Coast Meeting	Sept. 76
You and the American Gas Assn., Edison Electric Inst.	Sept. 92
Fleetman's Association Directory	Nov. 85
Society of Automotive Engineers Transportation Meeting	Dec. 76
You and Your Local Fleet Superintendents Assn.	Dec. 86

COSTS & RECORDS

*Cleveland Transit Streamlines Shop Records	Mar. 72
U. S. Government Fleet Operating Facts	Apr. 136
East Texas Motor Freight Streamlined Parts Inventory	May 72
Aluminum Tank Trailers Reduce Costs (E. P. White)	July 66
*Vermont Transit's Tailored Forms Cut Shop Time	Aug. 70
*Maintenance Yardsticks Show Bus PM Efficiency (PAR)	Dec. 69

FLEET OPERATIONS

Seattle's Security Conference Cuts Cargo Losses	Feb. 96
ATA's Road Failure Contest	Mar. 94
Manhattan Laundry's Route Salesman Quota-Bonus Plan	June 76
Two-Day College Refresher Course	June 83
Two-Way Radio Can Pay in Small Fleets	July 73
National Trailer Pool Offers Flexible Service	Aug. 94
Johnson Motor Lines Cuts Claims	Aug. 100
Dragline Cust Loading Time for Eastern Motor Express	Sept. 188
Piggy-Back Experience Growing Pains	Oct. 68
Clearing the Static from Mobile Radio	Dec. 66
McLean Gets OK "in Principle" for Seven Trailerships	Dec. 100

FUELS & LUBRICATION

Dynamometer Tests Up Fuel Mileage for Winn & Lovett	Jan. 73
Series 2 Oil Cuts Sludge (G. A. Fogg)	Jan. 80
San Diego Fire Chief Tells How to Start an Engine	Feb. 69
Fleet Lubrication Service Open Branch	Apr. 272
Shell's Oil Analysis Tells Maintenance Story	May 82
Utility Operators Talk Shop at AGA Meet	May 87
Pacific Motor Trucking's Mobile Lube Units	Aug. 74
*Wilkes-Barre Transit Wars on Gas Hogs	Sept. 72
High Additive Oils and Modern Engines (W. A. Howe)	Sept. 94
LP Gas Conversions Save Riley Cartage $300 per Truck	Oct. 74

HIGHWAY FACTS

Road Signs, Do They Guide or Confuse (Don Buck)	Mar. 66
Congress Debates the Highway Program	Mar. 83
Truck and Bus Highway Films	Apr. 176
Trucks Build the Highways	Sept. 66
The WASHO Road Test	Dec. 80

INDUSTRY STATISTICS

New Truck Registrations	See Index, each issue
Complete Bus and Truck Statistics	Apr. 129
Trucks Build the Highways	Sept. 66
Freight by Truck, It's Big Business	Oct. 166
Business Expansion Brings Reliance on Trucks (Curry)	Oct. 166
Private Carriers, A Cover Story	Nov. 3
Department Store Fleets, Modern Reindeer on Wheels	Dec. 79

LEGISLATION & REGULATION

State Size and Weight Limits	Apr. 138
Vehicle Safety Equipment Required and Permitted	Apr. 141
They're Gonna "Railroad" the IC Act (Transport Policy)	Sept. 74
1955 Highway User Legislative Roundup	Sept. 80
Clearing the Static from Mobile Radio	Dec. 66
Emergency Brakes, ICC's Proposed Regulations	Dec. 70

MAINTENANCE

Brakes

Key to Better Brake Drum Life (O. E. Johnson)	Jan. 76
*Chicago Transit Brakes Work Their Way	Feb. 74
Gordons Transports Trailers Get Highway Authority	Feb. 81
Instrumentation Proves What Brakes Will Do (S. Johnson)	Mar. 70
Baltimore Transfer's Formula for Stopping (W. Bennett)	July 78
Air Breakaway Systems and Their Applications	Sept. 76
Emergency Brakes, The Available Equipment	Dec. 70

Engines

San Diego Fire Chief Tells How to Start an Engine	Feb. 69
Care and Feeding of GMC 71 Injector (S. P. Beaman)	Feb. 70
Truck Maintenance Service Data	Apr. 81-111
*Bus Maintenance Service Data	Apr. 81, 112-115
Engine Maintenance Service Data	Apr. 81, 116-123
Fleet Passenger Car Maintenance Service Data	Apr. 124
Engine Power Ratings	Apr. 126
Cylinder Sleeve Corrosion, Causes and Cures (Don Smith)	May 78
Dry-Type Air Filter Simplifies Maintenance at Esso	July 90
Keep the Cooling System Clean	Oct. 76

Programs & Procedures

At Your Service	Each Issue 9
Dynamometer Tests Up Fuel Mileage for Winn & Lovett	Jan. 73
*Parts Salvage Saves Cincinnati $17,500 Yearly	Jan. 74
Series 2 Oil Cuts Sludge (G. A. Fogg)	Jan. 80
Neoprene Cuts Acid-Tank Painting Costs at Leaman	Jan. 82
Gordons Transports Trailers Get Highway Authority	Feb. 81

(Turn to Next Page, Please)

Index of 1955 Features

Continued from Page 91

MAINTENANCE

Programs & Procedures—*continued*

	Month, Page
Bad Rims Wreck Trucks and Profit Sheets (Win Fountain)	Feb. 83
Plastic Bodies Are Easy to Repair	Feb. 94
*Cleveland Transit Streamlines Shop Records	Mar. 72
Save the Clutch, Cowboy Drivers Has Got to Go	Mar. 74
East Texas Motor Freight Streamlined Parts Inventory	May 72
Shell's Oil Analysis Tells Maintenance Story	May 82
How to Mask Your Truck Preparatory to Painting (Straub)	May 96
Fortier Reaches for the Ultimate in Parts Life	June 78
How to Up Spring Mileage (Murray Fahnestock)	June 94
Aluminum Tank Trailer Clearing (R. F. Hafer)	July 68
*Quaker City Bus's Service Demands High Class PM	July 74
*Vermont Transit's Tailored Forms Cut Shop Time	Aug. 70
Boutell's Incentive Plan Slashes Road Failures	Aug. 72
*Do Road Calls Measure PM Efficiency (A. Coolbaugh)	Sept. 71
*Wilkes-Barre Transit Wars on Gas Hogs	Sept. 72
*At Virginia Transit All Dirt Goes Down the Drain	Oct. 72
Trial by Instruments	Dec. 76
*Maintenance Yardsticks Show Bus PM Efficiency (PAR)	Dec. 69

Tools & Equipment

	Month, Page
Shop Hints	See index, each issue
Shop Hints from Aero Mayflower	Mar. 90
*Fresno's Shop Designed Tools Cut Bus PM Costs	May 74
Shop Hints from McLean	June 72
Pacific Motor Trucking's Mobile Lube Unit	Aug. 74
*Greyhound Washer Cuts Bus Ready" Time	Aug. 79
Shop Hints from Fortier Transportation	Aug. 80
*Southern Penn Builds Rotary Bus Washer	Sept. 71
PIE's "Yard Doctor" Speeds Trailer Service	Oct. 83
Trial by Instruments	Dec. 76

Training

	Month, Page
Maintenance Training Film List	Apr. 156
Selected Maintenance Manual List	Apr. 157
*Youngstown's Training-Incentive Plan	June 70
You and Fleet Supervisor Training Programs	July 69
Boutell's Incentive Plan Slashes Road Failures	Aug. 72
Fleet Training Course School Directory	Nov. 300
You and Your Local Fleet Superintendents Assn	Dec. 86

NEW MODEL DESCRIPTIONS

Engines

	Month, Page
Continental's 8603 Gas or Diesel V-8	Jan. 90
GMC's 1955 Line, V-8 Engine Model Nos. 288, 324	Apr. 74
Dodge's 1955 Lines, Power Dome V-8 Engines	Apr. 76
International's 19 New Trucks, BD264-RD501 Engines	Apr. 266
Cummins Turbodiesel Cuts Weight by 800 lb	July 94

Trailers

	Month, Page
Trailmobile's New "Integral Post" Line	May 102
Fruehauf's Stainless Steel Van and Tank Trailers	June 104
Dorsey's Three-Way (Flat, Gondola, Livestock) Trailer	June 106
New Trailer Developments Promise Higher Profits	July 92
New High Cube Trailers from Edwards and Andrews	Aug. 98
Fruehauf's New "4000" Aluminum Van	Sept. 96
Great Dane's All-Aluminum "Greater Cube" Trailer	Sept. 98
Trailmobile Reaches for Optimum Cube	Oct. 92

Trucks

	Month, Page
FWD's 4x4 and 6x4 Over-the-Road Tractors	Mar. 100
GMC's 1955 Line, V-8 Engine Model Nos. 288, 324	Apr. 74
Dodge's 1955 Line, Power Dome V-8 Engines	Apr. 76
Chevrolet's 1955 Line	Apr. 78
Mack's Vari-Lift COE Series	Apr. 158
International's 19 New Trucks, BD264-RD501 Engines	Apr. 266
Kenworth's Cab-Beside-Engine Tractors	May 96
Twin Coach's Fageol Sleeper-Cab Tractors	May 96
Federal's 1955 "Golden Eagle" Line	May 100
White's 90-in. 9000 Series Tractor	June 100, Dec. 100
International's 16,000-lb. Walk-In Metro	June 106
Oshkosh 4-Wheel Drive, Ready-Mix Concrete Truck	July 98
Divco's "Dividend" Model for Multi-Purpose Delivery	Sept. 87
The Empire Front-Axle-Drive Delivery Truck	Sept. 98
International's 7000-lb. GVW 4x4	Sept. 100
International's CO-180 COE Series	Sept. 100
FWD Offers 6x4 Road Tractor	Oct. 82
International's New S-Line	Oct. 90
Ford Ups Horsepower in '56 Models	Oct. 94
Mack's Model Nos B-60X, B-61X Heavy Dumper Models	Oct. 96
Mack's "Great Western" 4- and 6-Wheelers	Nov. 58
International's D-400 Series Heavy Duty Models	Nov. 306
Studebaker for '56	Dec. 94
Reo's New V-8 COE	Dec. 96
Checker's New Taxicab	Dec. 98
Dodge's Tractor with 96-in. Cab	Dec. 98

Vehicle Equipment

	Month, Page
Clifford's Dry Ice Reefer System	Mar. 92
Louisville Metal's Aluminum Reefer Racks	Mar. 98
Boyertown's Reefer Body	Mar. 100
Clark Equipment's "Mobilvan" Cargo Containers	Mar. 100

Vehicle Equipment—*continued*

	Month, Page
Delphi's High-Strength, Low-Alloy Steel Body	Mar. 102
Goodyear's Rim for Large Tubeless Tires	Mar. 102
International's Lightweight Metro Bodies	May 96
Power Brake Equipment's Compression Braking	May 98
Rigid-Tax Metals in Trailer and Bus Work	May 98
Great Dane's Model No. 4 Tandem	May 100
Kysor's "Blunorther" Cab Air Conditioner	May 104
Spencer-Safford Loadcraft's Air Suspension	May 104
Miehle-Dexter's Turbochargers for Automotive Engines	June 104
Dry-Type Air Filter Simplifies Maintenance of Esso	July 90
Grico's Live Axle for Trailers	July 96
Adjustable 5th Wheel Shifts Weight	Aug. 98
Boyertown's Light Weight Body	Aug. 98
Mechanex Axle Hub Seals for Oil Lubrication	Aug. 100
Budd Wheel for Tubeless Tires	Aug. 102
Montpelier's Plastic Milk Delivery Body	Sept. 100
Reyco's "21" Challenger Series Suspension	Oct. 96
Hendrickson's Forged Aluminum Equalizer Beam	Oct. 96
U. S. Rubber's Steel Shield Tire	Oct. 116, Nov. 60
GMC's Hydraulic Starter for Diesel Engines	Dec. 98
Gramm's Nailable Steel Trailer Flooring	Dec. 102

PUBLIC RELATIONS

	Month, Page
Get on the Right Road to Roadeo	Feb. 100
Truck and Bus Public Relations Films	Apr. 176
The Hoosier Touch in Public Relations	May 94
Trucks Build the Highways	Sept. 66
Freight by Truck, It's Big Business	Oct. 66

SAFETY & DRIVER TRAINING

	Month, Page
Bulletin Board	See index, each issue
M&G Convoy's Fleet Chief Sparks Team to Safety Honors	Jan. 66
Wells Cargo Ammo Fleet Can't Afford an Accident	Feb. 92
Seattle's Security Conference Cuts Cargo Losses	Feb. 96
Silver Eagle's Incentives for Safe Driving	Feb. 98
Get on the Right Road to Roadeo	Feb. 100
Road Signs, Do They Guide or Confuse (Don Buck)	Mar. 66
Instrumentation Proves What Brakes Will Do (S. Johnson)	Mar. 70
Vehicle Safety Equipment Required and Permitted	Apr. 141
Safety Films for Truck and Bus Fleets	Apr. 186
Truck Drivers Go to College (North Carolina State)	May 76
You and the National Safety Council	May 83
Human Factors Studied in Harvard Safety Reports	May 102
Two-Day College Refresher Course	June 83
Wrigley's Stores' Drivers Drive Safely, Share Bonus	June 230
You and Fleet Supervisor Training Programs	July 69
Overland Express's Flexible Safety Program	July 82
From Accident Studies Come Safe Driving Tips	Aug. 66
Boutell's Incentive Plan Slashes Road Failures	Aug. 72
1955 Highway User Legislative Roundup	Sept. 80
West Coast Safety Center Protects Fleet and Driver	Sept. 90
Norman Transfer Safety Gains Customers Praise	Oct. 153
Fleet Training Course School Directory	Nov. 300
Emergency Brakes, IC's Proposed Regulations	Dec. 70

SHOP MODERNIZATION

	Month, Page
Care and Feeding of GMC 71 Injector (S. P. Beaman)	Feb. 70
Inland Petroleum's Dust-Proof Injector Room	Feb. 90
Philadelphia Utility Fleet Gets New Home	Mar. 76
Public Service of Indiana is Tops in Shops	Sept. 68
Factory Becomes Modern Garage for Toye Cab Fleet	Sept. 96
*At Virginia Transit All Dirt Goes Down the Drain	Oct. 72
Air Force Model Shop Sets New PM Pace	Dec. 74

SPECIFICATIONS

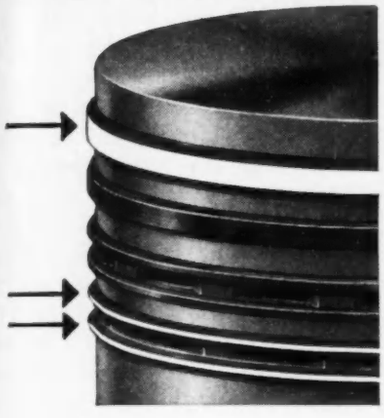
	Month, Page
Truck Selection Specifications	Jan. 105, Apr. 163, July 103, Oct. 103
Truck Maintenance Service Data	Apr. 81-111
*Bus Maintenance Service Data	Apr. 81, 112-115
Engine Maintenance Service Data	Apr. 81, 116-123
Fleet Passenger Car Maintenance Service Data	Apr. 124
Engine Power Ratings	Apr. 126
Spark Plug Heat Range Chart	Apr. 128
Transmission Ratios	Apr. 144
Third Axle Selection Specifications	Apr. 150
*1955 Bus Selection Specifications	Apr. 160

TRUCK, TRAILER & EQUIPMENT DESIGN

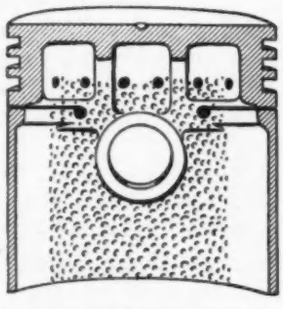
	Month, Page
Kenosha's Convertible Auto Transport Flatbed	Jan. 94
Plastics for Bodies	Feb. 66
Instrumentation Proves What Brakes Will Do (S. Johnson)	Mar. 70
Schaefer Brewing's Palletized Route Truck	Mar. 96
Trailer Wind Tunnel Tests Show Fleet Savings	Apr. 80
The Battle of the Tubeless Tire Rim	May 70
More Cube—Carriers' Battle Cry—Makers' Challenge	June 66
Bowman Dairy Builds a Better Body	June 76
Florida Power & Light Designs for Special Needs	June 80
What's Ahead in Truck and Bus Developments?	June 220
Aluminum Tank Trailers Reduce Costs (E. P. White)	July 66
Aluminum Tank Trailer Design Requirements (D. G. LaRue)	July 67
Automatic Transmissions Featured at SAE	July 76
New Trailer Developments Promise Higher Profits	July 92
Modern Axles and Suspensions (E. E. Siegrist)	Aug. 76
Mounted Mailmen Select a Modern Truck	Aug. 82
Don't Monkey with the Frame (Joe Geschelin)	Aug. 96
Air Breakaway Systems and Their Application	Sept. 76
Aluminum Enters the Dump Body Field	Sept. 88
Air Starters Stop Troubles at Carolina Motor Freight	Oct. 80
Trailmobile Reaches for Optimum Cube	Oct. 92
Emergency Brakes, The Available Equipment	Dec. 70

Quick Seating

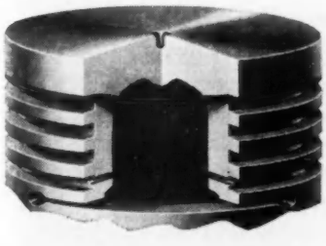
EVERY RE-RING JOB DESERVES ALL THREE . . .



1. Kromex Ring Sets are the most economical, measured by miles. Factory-seated for instant oil control—chrome-faced top ring and oil ring side rails for longest wear.



2. Sealed Power SUPER-SIZER is the world's best resizing method, increases resiliency and outward tension on thrust faces, expands skirt to original close fit, leaves piston skirt surface smooth.



3. Sealed Power GI-60 Groove Insert is the only dependable, economical method of restoring top groove to original size and protecting against future wear.

Sealed Power KromeX

PISTON RING SETS . . .

assure your engine

- quick seating
- smoother performance
- faster pick-up
- double ring life
- maximum oil economy
- positive lubrication

assure YOURSELF

- lower cost per mile
- more miles of good service
- no come-backs

SEALED POWER CORPORATION • MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST FOR RE-RING! BEST FOR RE-BORE!

RINGS • PISTONS • PINS • SLEEVES • VALVES • WATER PUMPS

Studebaker for 56

. . . features 12-volt ignition, larger capacity springs for more payload, 92 to 175-hp engines

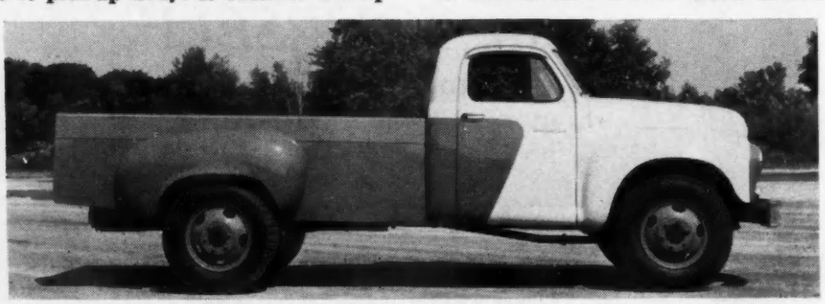
Studebaker-Transtar Line

Model	Nominal Rating (tons)	Wheelbase (in.)	GVW (lb)	Engine Size (cu in.)	Type	Hp
2E5	½	112, 122	4800	185.6	6-cyl.	92
2E7	½	112, 122	5000	224.3	V-8	140 160
2E12	¾	122	7000	224.3	V-8	140 160
2E13	1	131	7600*	259.2	V-8	156
2E28	1½	131, 155	14,000	259.2	V-8	156
2E38	2	131, 155, 171	16,000	259.2	V-8	156 175

*—9600 lb. with dual rear tires.

Light duty pick-up units, such as the new ½-ton, 122-in. wheelbase model below, have a wider tread rear-axle to give 51½-in. wide clear floor space

Also new is this 1-ton model with 9-ft pick-up body. It features 156-hp V-8 power plant previously used only in Studebaker's heavier truck models



STUDEBAKER trucks for 1956 made their appearance late last month. As announced by the Studebaker - Packard Corp., engineering changes in the new "Transtar" line, summarized in the box at left, include an electric shift with two-speed rear axle, increases up to 700 lb in GVW on pickup models, 12-volt electrical system, wide tread rear-axle, larger capacity brakes and springs, two-stage springs as standard equipment, and acoustical sound deadening headlinings.

In the light duty line, pickup bodies will be 6½ to 9 ft in length, stake and platform types 8 and 9 ft. Models in the heavier duty line include chassis-cab and factory installed 9- through 14-ft stake and platform bodies. In addition, light duty pickup models have been redesigned to give 51½-in. wide clear-floor space. In making this design change, a new wider tread rear axle has been adopted which allows elimination of the wheel housings. New wider pickup bodies, plus new longer bodies, result in a payload volume capacity increase of as much as 20 per cent.

Oil bath air cleaners will be standard for the first time on all models. A 12-volt electrical system will also be standard throughout the line. Ignition key starter will replace clutch pedal starters. Two-stage rear springs will become standard equipment in the light-duty line.

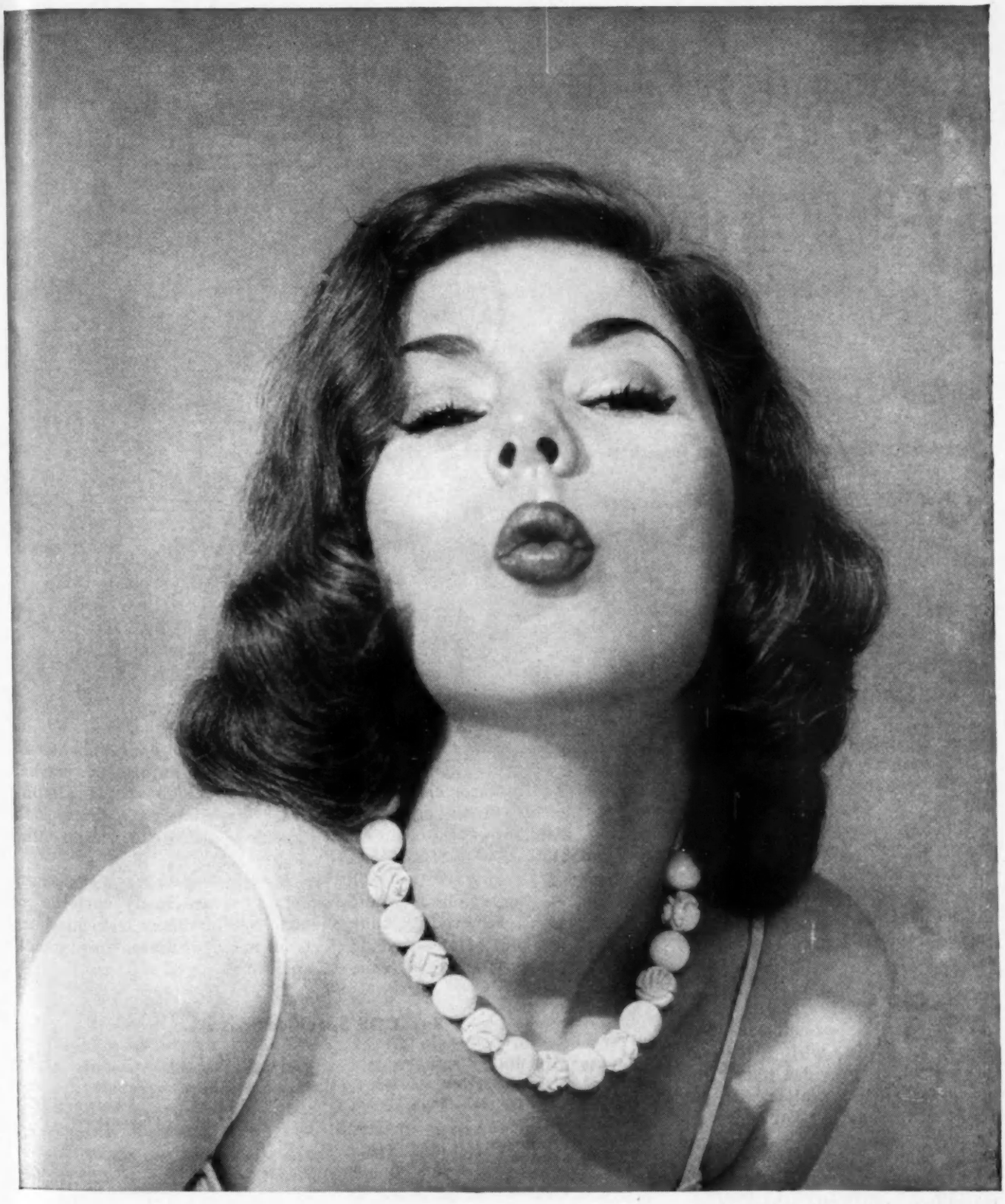
More Horsepower

The larger 259-2-cu in. 156 hp V8 engine, previously used only in heavier models, will be introduced as the standard power plant for the one-ton model. The 224.3 cu in. engine, with a bore 3 9/16 and a stroke of 2 13/16, will be the power plant for some ½-ton models and all ¾-ton units. Compression ratio is 7.5-1 and torque is 202 ft lb at 2800 rpm.

Automatic Transmission

Standard in the light duty ½- and ¾-ton models is the 3-speed synchromesh transmission with an optional fourth speed overdrive available. Studebaker's new auto-

(TURN TO PAGE 116, PLEASE)



The signal that can't be missed

Signal-Stat

DIRECTIONAL SIGNALS • SWITCHES • FLASHERS

Reo's New V-8 COE Tractors

Bumper to back-of-cab measurement on both 65,000 and 78,000 lb GCW models is 63 in. or 87 in. with sleeper cab

TEND of last month Reo Motors, Inc. announced two new cab-over-engine tractor models. Both feature Reo's Gold Comet V-8 engines, extremely short turning radius and excellent visibility.

Model No. AC-603 is rated at 65,000 lb GCW; Model No. AC-703 at 78,000 lb GCW. Both are available with either the 195 or 220 hp Gold Comet over-head-valve, V-8 engine in either gasoline or LP gas versions.

Within 45-ft Limit

Bumper to back-of-cab measures 63 in. or 87 in. with full-sized sleeper which provides plenty of space for a 35-ft. trailer with 45 ft overall length limit. From bumper to center of front axle is 29 in., said to provide maximum load distribution depending on wheelbase and fifth wheel location.

Wheelbases range from 106 to 154 in. with minimum of 139 in. when auxiliary transmission is used.

Engine Accessibility

Many removable panels are provided for engine and service accessibility. As may be noted in the photograph, a hinged grille section (including headlights) swings up to provide access to dip stick and radiator cap. Floor panels provide direct access to battery, distributor, air compressor and other accessories. Spark plugs may be reached through side panels. For major overhaul, engine may be removed through front end in about one hour.

The curved windshield combined with large rear window and side glass gives almost 360-deg visibility. Cab appointments include 4-way adjustable driver's seat (companion seat available) 5 x 7 in. rear view mirrors, locking glove compartment and other deluxe features.

Power steering is an equipment option as are many varieties of main and auxiliary transmissions, front and rear axles, tires, wheels and rims.

Reo COE Specifications

GCW—65,000 lb (Model No. AC-603), 78,000 lb (Model No. AC-703)
Wheelbases—106, 118, 130, 154 in.
CA—72, 84, 96, 120 in.
Engine—Standard—V-8, 195 hp
Optional—V-8, 220 hp
Fuel Tanks—Standard—90 gal, saddle
Optional—125 gal, saddle
Electrical System—12-volt, 40 amp
Clutch—14 in.
Transmission—Standard—Spicer 6352
Optional—Fuller R-46
Optional Auxiliary Transmissions—(1) Spicer 6231A (2) Spicer 8031G (3) Spicer 8035G
Minimum Wheelbase with Auxiliary Transmission—139 in.
Front Axles—Standard—Timken FD-900
Optional—Timken FE-900
Rear Axle—Standard—Model No. AC-603
Rear Axle—Model No. AC-603
Standard—QT-300
Optional—(1) Q-100 (2) QT-200
Rear Axle—Model No. AC-703
Standard—R-300
Optional—(1) R-100 (2) R-200
Hand Brake—14 in., 2-shoe disc
Steering Ratio—28:1
Tires and Rims—Standard—10.00x20, 12 ply
Frame Dimensions—9⅛ x 3 1/16 x 5/16 in.
Tire and Rims—12 ply on 7.5 rims
Tire Sizes—Standard—10.00 x 20
Optional—(1) 10.00 x 22 (2) 11.00 x 20 (3) 11.00 x 22
Wheels—Standard—Cast spoke
Optional—10-stud Budd disc

"Let's be sure to specify

STEERING LINKAGE BY THOMPSON"

MORE and more automotive manufacturers today specify "Steering Linkage by Thompson" when designing and planning their cars, trucks, buses and tractors of tomorrow.

And for good reason—for they've learned that "You Can Count on Thompson" as a dependable source of supply. And they've learned, too, to count on Thompson for important developments in ball joint design, for steering linkage, as well as other applications. Thompson's steering linkage units are in yesterday's cars and today's cars. And they'll be in tomorrow's cars, too.

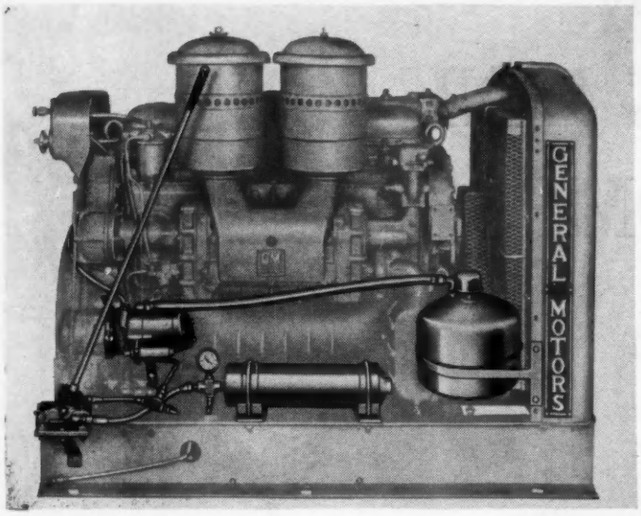
Typical of these developments is the revolutionary Thompson-engineered front suspension ball joints, the greatest advance in automotive front suspension in 20 years. For over 50 years Thompson has played an important role in the automotive world.

If you use steering linkage assemblies, specify "Steering Linkage by Thompson". For details on how Thompson's skilled steering engineers can help you with your steering linkage developments, write, wire or phone Thompson Products, Inc., Michigan Div., 7881 Conant Ave., Detroit 11, Michigan, WA 1-5010.

Thompson Products

MICHIGAN DIVISION

DETROIT • FRUITPORT • PORTLAND



GMC's Hydraulic Diesel Starter

NEW HYDRAULIC starting system for diesel engines, developed by General Motors, has been tested in the field for some time and is now available for installation on new GM Detroit diesel engines or on others already in operation.

GM says the new system, called the "Hydrostarter," (1) eliminates many replacement and maintenance costs common to conventional starters; (2) is not affected by temperature, humidity or altitude. In zero temperatures, for instance, the unit is said to attain cranking speed almost instantly.

The parts shown (left to right) are: manual pump, starter motor, pressure gage, factory-sealed pressure accumulator and oil reservoir. The small engine-driven pump is installed at rear of engine (out of view in this photo). Accumulator cylinder, hand pump and oil reservoir can be positioned either on or off engine.

McLean Gets OK "in Principle" for Seven Trailerships

PAN-ATLANTIC Steamship Corp., operating subsidiary of Malcom P. McLean's McLean Industries, Inc., has approval in principle from the Maritime Administration for its proposal to operate seven trailerships in coastwise service along the east coast.

According to the announcement from McLean, the $63 million construction cost will be financed by a 12½ per cent down payment by Pan-Atlantic and 87½ per cent preferred mortgages from a commercial banking group. Pan-Atlantic will be insured for both interest and unpaid loan balance under a construction and mortgage arrangement under Title XI of the 1936 Merchant Marine Act.

Final approval by the Maritime Administration, says the statement, is contingent upon Pan-Atlantic meeting certain requirements which it is prepared to do.

Carrying capacity of the new ships is 288 35-ft semi-trailers. Bethlehem Steel's Shipbuilding Division is expected to get the nod for construction of the 9000-ton dead weight vessels, according to the announcement. The new ships will cut cargo handling costs by at least 75 per cent according to preliminary studies.

They will operate, at a cruising speed of 19 knots, between several Atlantic and Gulf ports including New York City, Philadelphia, Baltimore, Md., Miami, Tampa, Panama City, Jacksonville, Port St. Joe and Pensacola, Fla., New Orleans, La., Boston, Mass., Georgetown and Charleston, S. C., Mobile, Ala., and Galveston and Houston, Texas.

It is estimated that delivery can be made of the first ship between 12 and 18 months after the keel is laid following signing of a construction contract. Deliveries, as tentatively planned at present, would be at a rate of one vessel a month thereafter.

Dodge's Tractor with 96-in. Cab

DODGE TRUCK is offering as special equipment a contoured cab to provide a dimension of only 96 in. from front bumper to center-of-back-of-cab.

The new contoured cab was designed to maintain a 45-ft over-all length when used with 35-ft square-nose "pool" trailers having a corner radius of 10 in. It also will accommodate 35-ft trailers having a 9-in. corner radius.

To achieve the 96-in. dimension, the back of the special cab is indented six inches at the center and tapers out to the standard cab depth at the corners. It is offered in addition to the conventional Dodge tractor with 102-in. bumper to back-of-cab dimension which permits the hauling of a 35-ft oval-nose trailer to keep within the 45-ft limit.

The new contoured cab will be available as special equipment on a wide range of the new C-3 Series of Dodge conventional tractors.

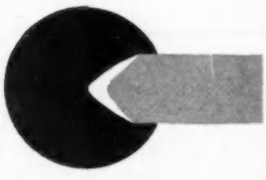
Another first by replacement ring specialists!

seats 3 to 4 times faster than other chrome rings

See the difference!

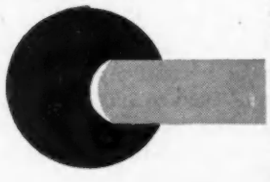
BEVELED CHROME RAIL

makes fineline contact with cylinder wall for a faster seat. Less area to wear-in means less time to break in.



CONVENTIONAL CHROME RAIL

originated by Hastings . . . now replaced by *Beveled* Chrome



In 1936, Hastings introduced Steel-Vent—an entirely different type of oil ring that revolutionized the piston ring industry.

Now Hastings does it again with *Beveled Chrome* Oil Rings —exclusive in Hastings 2-C Chrome Sets.

This remarkable new ring seats 3 to 4 times faster than conventional chrome. Patented beveled rails make positive, fineline contact with any cylinder wall—tapered, out-of-round, rebored. And because beveled design permits the use of a lighter inner spring, you know this ring is gentle.

With Hastings torsional designed, high-graphitic compression ring in the same "Motor Engineered" set, you get the fastest seating, best performing chrome combination there is!

Next ring job, install the *only* chrome rings that are beveled to seat fast, and stop oil-pumping from the start. Install a Hastings 2-C Chrome Set—"Motor Engineered" by replacement ring specialists!

HASTINGS MANUFACTURING CO., HASTINGS, MICH. • HASTINGS LTD., TORONTO

Piston Rings, Casite, Oil Filters, Spark Plugs, Wear Reducer

*TOUGH but oh so gentle

HASTINGS

***Tough on oil-pumping . . . Gentle on cylinder walls**

STEEL-VENT PISTON RINGS

Chrome Faced for Heavy-Duty Service

White's 90-in. 9000 Tractor

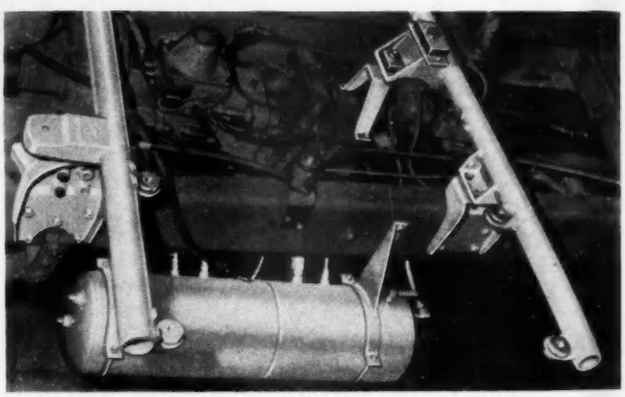
THE WHITE "9000" line is now in production in both gasoline and diesel models, announces The White Motor Co., Cleveland, Ohio. It is designed to meet size and weight limits in those states that have maximum allowable GVW determined by the "L" dimension (front tractor axle to rear trailer axle).

The new 9000 series for "L" states features a 90-in. dimension from front-of-bumper to back-of-cab. First introduced a few months ago in a diesel version (CCJ, June, page 100), the 9000 line now offers, in addition to the diesel, a choice of four White Mustang gasoline engines with 145, 160, 190, and 215 hp ratings.

The shortened dimensional tractor can accommodate a 35-ft high-cube trailer with a wide range of kingpin locations and remain within the 45-ft overall length limit or a 40-ft trailer within the 50-ft overall length limit. Front axle, springs, steering gear and frame are engineered to handle loading up to 11,500 lb.

The new Mustang engines feature improved cylinder head almost double the depth of previous design, 4-barrel carburetor, water jacketed intake manifold, larger lubricating oil and water coolant pumps, alloy steel crankshaft, manually controlled air filtration system.

Two steel cross-members anchored with brackets to the chassis side rails (illustrated at left) are "saddle"-mounted to support the cab, transmission, fuel tanks, battery, tool compartment, combination step, and the rear of the front fenders. Three of the four pivot-points supporting the cab and upper sheet metal structure are located on these cross-members. Together with the single mounting at the front of the chassis, these cross-tube mountings keep road shock and vibration from being transferred to the cab.



Checker's New Taxi

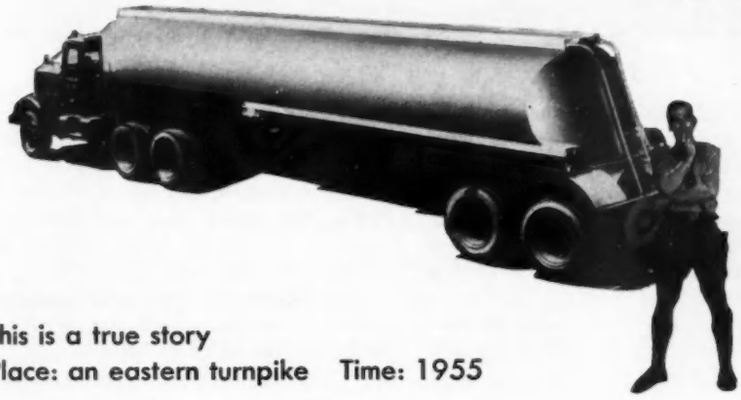
CHECKER CAB Corp., Kalamazoo, Mich., has introduced a newly designed taxicab model for sale to its own operating divisions as well as to independent operators. The cab is readily convertible to a passenger car.

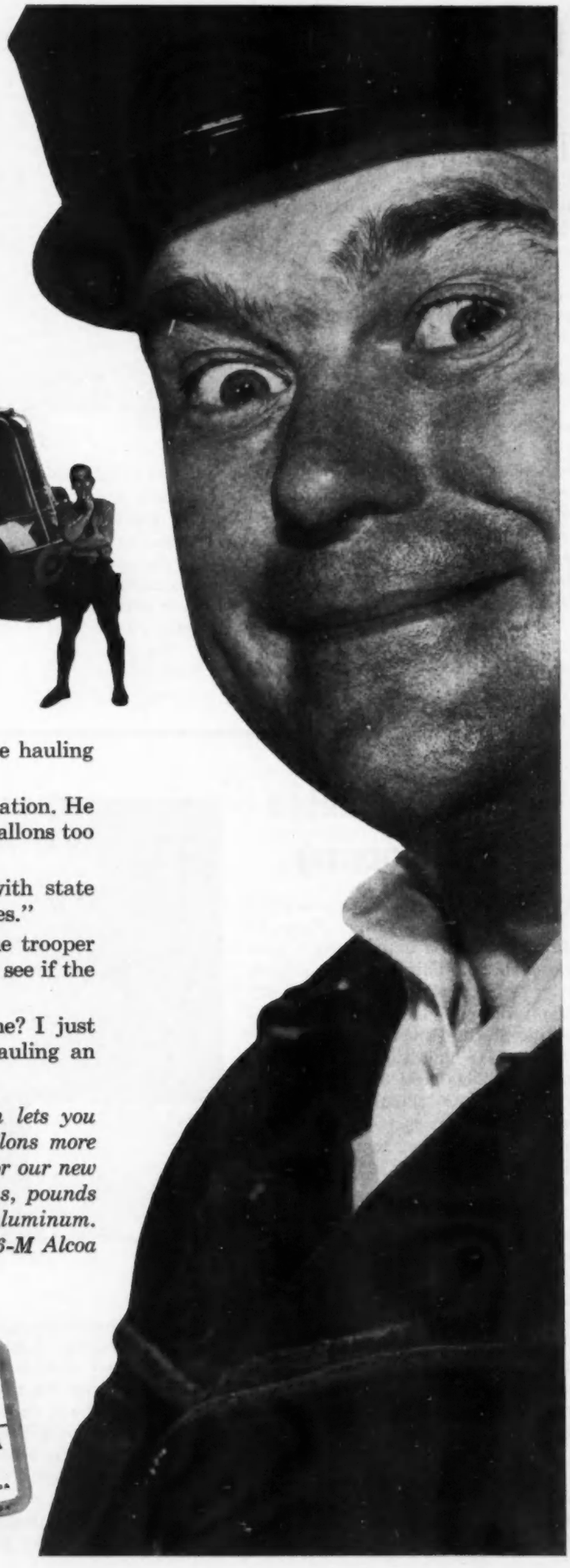
The new taxicab will be available in two models—the A-8 Standard with conventional equipment; the A-8 Div-Er-Matic Special, fully equipped with such extras as a fully automatic transmission, Bendix linkage type power steering, and power brakes. As a cab, the Standard model will be priced at $1805, the Special at $2206. It should be noted that these prices do not include tires, tax or delivery.

Being designed specifically for taxicab operations, the vehicle is equipped with the same Continental engine used heretofore, fitted with a special camshaft to provide maximum torque with a relatively flat torque curve extending over the range of 1000 to 1600 rpm. The vehicle is capable of attaining around 75 mph on the open highway. The engine also is available with a special head for compression ratio of only 5.43 to 1 when desired for low speed, low grade fuel operations.

The new cab features knee action front suspension, coil springs with central mounting of Gabriel direct acting shock absorbers, suspension utilizing the latest type Thompson Products ball joint mechanism. Ross cam-and-lever type steering gear with 19 to 1 ratio is standard. Bendix linkage type power steering mechanism is available at the owner's option.

Ever argue weights with a state trooper . . . and win?





This is a true story
Place: an eastern turnpike Time: 1955

I'm a truck driver. I'm toolin' down the turnpike hauling a tank "semi" when it happens.

A state trooper flags me down at this weigh station. He looks at my bill of lading and announces, "600 gallons too much, Mac. Overweight!"

Now I'm *not* the arguin' type — especially with state troopers—so I just say, "Let's put 'er on the scales."

The scales show I'm *under* the limit. Does the trooper say "Drive on, Mac?" No. He sends for a guy to see if the *scales* are right.

This guy gives the scales a big okay. And me? I just grin—and take off. I never did let on I was hauling an *aluminum* tanker.

MORAL: A rig of lightweight Alcoa® Aluminum lets you carry more payload—in this case over 90,000 gallons more per month, than a unit built of steel. Write today for our new free Weight-Rate-Profit chart. It shows in gallons, pounds and dollars how much you can gain with Alcoa Aluminum. Address: Aluminum Company of America, 1876-M Alcoa Building, Pittsburgh 19, Pennsylvania.

Your Guide to Aluminum Value

WE CHOSE
ALCOA
ALUMINUM
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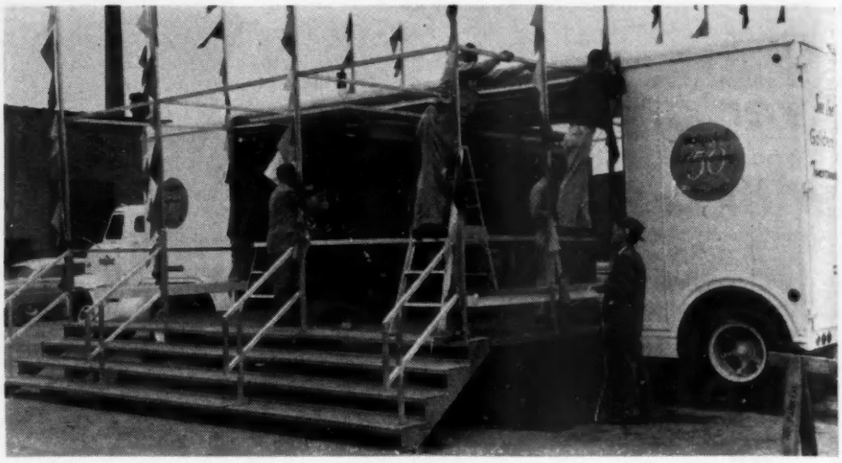
ALUMINUM COMPANY OF AMERICA

Hotpoint's Kitchen on Wheels



THE HOTPOINT CO. celebrated its 50th anniversary this year by designing "Tomorrow's Kitchen . . . Today." It is installed in a specially designed semi-trailer and is currently making a nationwide tour.

The all-steel trailer is essentially a warehouseman's van, off the Trailmobile assembly line, with special engineering to provide strength. The trailer is 35-ft long, 12½-ft high from the ground and 8-ft wide.

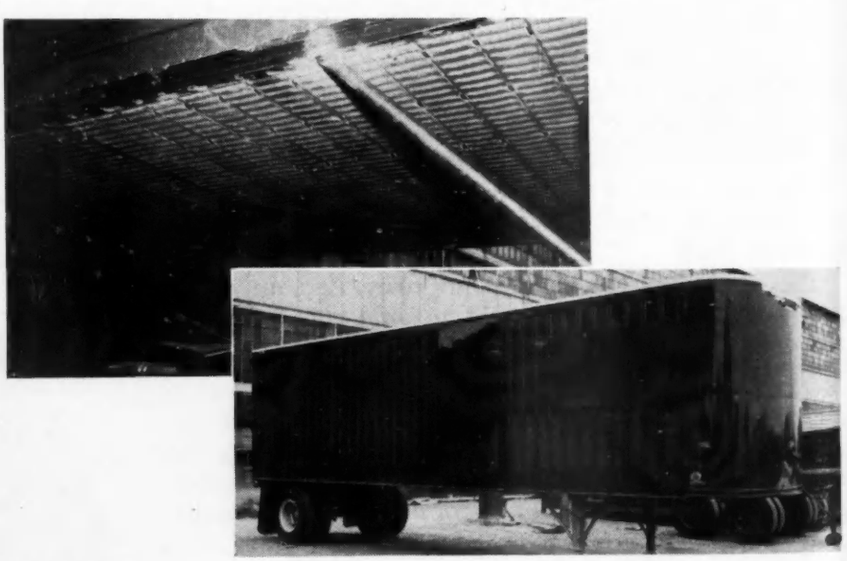
It can be turned into a display room entirely by hand. Special doors, 20-ft wide, 8-ft high and 2-in. thick, are on each side of the trailer. They are lowered individually by push buttons located in the nose. Two electric motors are installed in the roof for the operation. The doors, when level with the trailer floor, form a platform 24 x 20 ft.

The strength of the trailer is in the quarter panels and rub rails. The quarter panels are boxed in with iron channel, with an additional channel beneath the rub rails. Gussets were also put up to each of the cross bolsters. To conquer the problem of keeping the overall width within the 8-ft maximum, all bracing, hinges, and other hardware are flush with the body.

Flag poles rise 15-ft above the platform formed by the lowered doors and are used as supports for the canvas awning that covers the platform. This awning zips onto the trailer. The super structure for the awning bolts onto the door, and the handrails, square aluminum tubing, fasten by bolts and wing nuts.

The aluminum steps to the platform come in sections and are equipped with aluminum hand rails.

Gramm's Nailable Steel Flooring



NAILABLE steel flooring has a new use at Gramm Trailer Corp. In addition to its use in dry freight vans to provide nailability, Gramm is using it in reefer trailers as well as dry freight vans in place of conventional flooring plus crossmembers.

Tests have indicated that application of nailable steel flooring directly to the frame, as illustrated, offers a total weight that is no greater than similar trailers using extruded aluminum flooring with aluminum crossmembers underneath, reports Gramm.

Utilizing less expensive products than plastic materials and adding new design in conjunction with steel flooring, Gramm reports it has developed an insulated unit that meets weight and heat conductivity problems.

One change has been the use of nailable steel flooring which has supplied savings in weight in addition to more structural strength at relatively lower costs.

Another has been the development of integrated roof beams and meat rail hanger reinforcement and under pan and crossmember integration for additional saving in weight and operating economies through reduction of heat conductivity. A growing demand for meat rail trailers resulting from the higher price per pound earned by frozen meats hung on rails in place of stacking has been met by Gramm through the use of wooden roof bows to which are attached aluminum meat rails.

Another design feature in the new refrigerated-insulated trailer units is the insulated island of the trailer interior through which there is no metal to metal contact to the outside to dissipate the interior temperatures, a feature made available through the new design incorporating the nailable steel flooring.

For further information on the new trailers using the nailable steel flooring, circle P 39 on the postcard on page 84.

BLUE CABS travel 6.5 Million Miles per Year...

WITH PHILLIPS 66 HDS MOTOR OIL

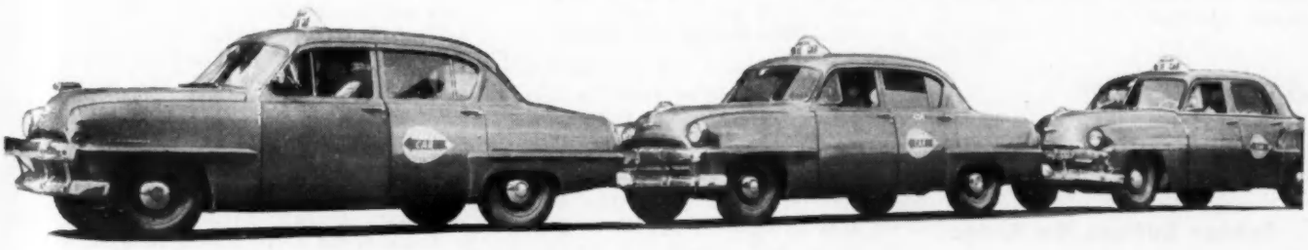
TED SPOHNHOLTZ, *Shop Foreman,*
Blue Cab Company, Oak Park, Ill.

"We have been using Phillips *66* heavy duty motor oils for the past twelve years as they have proven to us that we get maximum performance from our motors with the least amount of maintenance. They have enabled us to operate our cabs an average of 150,000 miles.

"Our maintenance records give actual proof of these facts; even to the time when these engines are finally taken down . . . bearing wear measures as little as one-half thousandth of an inch . . . cylinder wall wear only two to three thousandths of an inch. With Phillips *66* HDS Motor Oil, idling engines are protected from harmful low temperature sludge."

Whether you operate taxi cabs, buses, trucks or construction equipment, your fleet can establish the same outstanding service record. For regardless of your operation, there is a Phillips *66* heavy duty motor oil for *your* fleet.

A Blue Cab covers five to six thousand miles a month, but slow periods still occur. With Phillips *66* heavy duty motor oils, idling engines are protected from harmful low temperature sludge.



A Phillips 66 Lubrication Engineer will be glad to help you select the correct Phillips 66 heavy duty motor oil for your particular service conditions. Write to: Sales Department, Phillips Petroleum Company, Bartlesville, Oklahoma.

It's Performance That Counts!

Phillips 66

PHILLIPS 66 HEAVY DUTY MOTOR OILS

DECEMBER NEWS ROUNDUP

1955 Domestic Truck Factory Sales by G.V.W.*

	5,000 lb. and less	5,001-10,000	10,001-14,000	14,001-16,000	16,001-19,500	19,501-26,000	Over 26,000	Total
January	37,040	12,271	3,300	12,015	3,176	2,552	3,591	73,947
February	25,500	9,113	2,319	9,045	2,808	2,910	3,558	55,253
March	43,294	14,454	3,543	14,836	2,671	2,748	4,514	86,060
April	55,955	17,933	4,146	19,041	3,926	3,572	5,603	110,176
May	54,231	17,092	4,345	19,397	4,269	3,290	5,738	108,362
June	47,614	16,615	3,576	18,591	5,302	3,803	6,124	101,625
July	42,462	14,883	3,261	19,206	5,055	3,766	5,086	93,739
August	37,216	12,508	2,648	16,304	3,381	3,025	4,993	80,077
September	41,149	12,053	2,751	11,673	2,672	2,260	4,293	76,851
Total—9 Mos. 1955	384,463	126,922	29,889	140,108	33,262	27,674	43,752	786,090
Total—9 Mos. 1954	304,886	118,782	25,402	109,965	24,110	30,993	27,717	641,855

*—Automobile Manufacturers Association.

Transportation Policy

Carrying out the program approved by fleetmen across the country at the recent American Trucking Assns. convention, ATA has begun its fight to prevent enactment of unjust and unreasonable amendments to the Interstate Commerce Act stemming from the Transport Policy Report. Summarized below are several major speeches made last month by industry leaders:

. . . High Rates

Shippers who send their commodities to market by rail alone stand to suffer if the Weeks Committee recommendations replace the present time-tested National Transportation Policy, members of the Cleveland Traffic Club were told by James F. Pinkney, ATA general counsel. If the railroad proposals were to become law, he said, "It is probably true that your rates would be lower for the present, but carrier self interest would compel the rates to go up after competition is eliminated—possible even to that high maximum which these proposals would establish."

. . . Farm Troubles

Pinkney also warned the members of the National Grange at their annual meeting that permitting railroads to set their own freight rates without federal regulation would work "to the particular disadvantage of small shippers, small communities, and the produce of the farm, the mine, and the forest." That, he asserted, would be the result if proposals of the Presidential Advisory Committee on Transport Policy were enacted into law.

. . . Economic Destruction

Whole communities will have to face the threat of possible economic destruction if the Weeks Committee proposals to change the National Transportation Policy are enacted into law, said Walter W. Belson, ATA director of public relations, at the annual meeting of the Delaware Motor Transport Assn. He pointed out that the different rates that can result from community to community will favor the large shipper at the expense of his small competitor. The Weeks Committee proposals would bring a return of monopoly in transportation, he charged, by allowing the railroads to cut rates almost indiscriminately in some areas and on some commodities while raising them on others.

. . . Not Good for South

"What some railroad leaders seem to think would be good for their railroads, would not be good for the South," Jack Cole, past president of ATA, told the Northeast Traffic and Transportation Club at Gadsen, Ala. "The rate changing freedom would create uncertainty in which no farm, or factory, or distributor of merchandise could know, from month to month, what his own shipping costs or his competitors' costs were going to be. Nor would he know, without investigation and some guesswork, what freight rates he would face if he planned establishment of new branches or plants in a different area otherwise inviting to him. This last has most serious implications for the South. Let these corporations find suddenly that due to a change in federal laws they now had more favorable shipping rates from northern or western plants than they did from southern plants, and what would happen? First, the shifting of production to plants where volume rates or individual railroad's rates gave them a better cost, and then the closing of the plant that happened to fare less well on freight rates. This could happen, and would happen—plant by plant, town by town, region by region."

. . . Private Carriers

Private motor trucks business are a major target of the Weeks' Committee Proposal on Transport Policy, said Harry Cooke, newly elected chairman of ATA's Private Carrier Conference. "Within the report, in pious language, is a proposal to redefine a private carrier of property by motor vehicle. This amendment, if approved by Congress, would set back private carriage at least ten years by nullifying a long series of favorable decisions of the Interstate Commerce Commission and the Courts." Cooke said all private carriers should "view with suspicion" the real motives behind the Weeks' Proposal. He said railroad spokesmen, at a recent Congressional hearing on this matter, "left little doubt that their real concern was so-called unregulated competition, which the railroads allege presently hauls 64 per cent of the highway ton-miles."

(TURN TO PAGE 134, PLEASE)

Rubber Softens the Bumps

First commercial application of a rubber highway railroad crossing has just been made on the main tracks of the Erie Railroad, across U. S. Highway 42 at West Salem, Ohio. The new rubber vehicular roadway consists of slabs of rubber with a seven-gage steel supporting member embedded in the rubber, secured by bolts through railroad tie shims to regular road-bed ties. Provided with tapered flanges, the rubber slabs are designed to make a water-tight seal with the rails. Special tough, long-wearing rubber, similar to that used in tire treads, is exposed to the elements and tires of vehicles. It has a diamond design molded into it for skid resistance. The rubber crossing has excellent shock-absorbing qualities. Flexibility of the rubber pads breaks up ice formations. The new technique reduces crossing installation time and the pads can be readily removed.

100 NEW *Mack* DIESELS

give HOOVER 7.6 mpg

AFTER making thoroughgoing comparisons between Mack Thermodyne® Diesel tractors and the make it was operating, Hoover Motor Express Co. of Nashville, Tenn., has put 100 of these great Mack diesels in service on its routes.

Here's what Mr. Eph Hoover, president of this big line, has to say about their new Macks:

> "We recently made a fuel check on the hundred Mack tractors which we purchased and we feel that you will be happy to learn that this check revealed that we received 7.6 miles per gallon while carrying average payload of 23,424 pounds.
>
> "Our drivers are very complimentary of our new tractors. Several have indicated how easily these Macks pull the hills with heavy loads. The drivers also state that they are much less tired at the end of their trip with these new Macks. In addition, and most important, our records also prove that we have not had one single mechanical breakdown on any of our Mack tractors."

Such records are typical of Mack economical performance everywhere. Need more be said . . . ***can you afford not to own Macks?***

3580

MACK TRUCKS EMPIRE STATE BUILDING, NEW YORK 1, N. Y.

1955 New Truck Registrations by Makes by States*

STATE AND MONTH		Brock-way	Chev-rolet	Dia-mond T	Dodge	Ford	G.M.C.	Interna-tional	Mack	Reo	Stude-baker	White	Willys Jeep	Willys Truck	All Others	Total
Alabama	Sept.		628		80	467	183	132	26		6	13	4	2		1,541
	9 Mos.		5,255	17	857	4,475	1,337	1,191	158	19	73	139	45	64	22	13,652
Arizona	Sept.		311	1	60	229	75	54	2		15	5	10	18	9	789
	9 Mos.		2,058	6	523	1,631	645	443	28	7	106	28	86	183	45	5,789
Arkansas	Sept.		459	2	76	490	174	91	2		23	5	5	5		1,332
	9 Mos.		4,214	22	663	4,377	1,207	1,037	38	8	169	60	49	30	2	11,876
California	Sept.		3,229	40	763	2,712	978	563	38	49	90	198	132	190	185	9,165
	9 Mos.		21,709	241	5,587	20,774	6,450	4,459	297	185	904	729	1,047	1,562	1,363	65,307
Colorado	Sept.		436	1	76	386	134	130	4	1	9	14	51	60	11	1,313
	9 Mos.		3,154	16	707	2,767	883	932	80	39	133	95	387	556	131	9,880
Connecticut	Sept.	2	312	9	59	258	96	97	19	8	12	42	7	12	10	943
	9 Mos.	15	1,874	62	485	1,608	469	770	185	38	78	216	88	144	95	6,127
Delaware	Sept.	1	79	2	22	87	44	39	10	1	1	10	2			298
	9 Mos.	6	674	3	181	528	234	347	243	4	13	190	16	12	9	2,480
District of Columbia	Sept.		66	6	5	52	8	10		1		1	5		1	155
	9 Mos.	2	551	8	137	502	240	176	6	27	4	23	13	17	20	1,726
Florida	Sept.		834	3	111	805	264	197	44	12	23	107	38	49	23	2,510
	9 Mos.		6,555	41	1,194	6,723	1,731	1,546	358	94	277	442	298	503	179	19,941
Georgia	Sept.		1,003	11	134	834	233	190	34	5	23	37	10	12	4	2,530
	9 Mos.		7,552	30	1,478	7,549	1,781	1,818	237	35	230	268	87	80	16	21,161
Idaho	Sept.		217	2	57	184	88	89	2		18	5	12	30	1	705
	9 Mos.		1,517	11	418	1,305	616	672	34	4	127	33	141	318	26	5,222
Illinois	Sept.		1,244	26	183	1,036	288	417	19	6	34	30	24	23	34	3,364
	9 Mos.		9,454	319	2,356	9,137	2,055	4,666	193	112	349	445	262	273	281	29,882
Indiana	Sept.		1,039	19	155	897	220	308	13	21	39	78	10	22	12	2,833
	9 Mos.		7,216	84	1,413	6,577	1,518	3,184	120	83	522	470	99	158	158	21,602
Iowa	Sept.		494	14	99	550	87	200	4	2	7	8	3	6	9	1,483
	9 Mos.	2	4,213	67	864	4,397	731	2,377	54	15	122	95	46	78	79	13,160
Kansas	Sept.		471	5	52	511	124	134		2	16	7	7	8	3	1,340
	9 Mos.		4,723	22	571	4,242	1,029	1,477	3	33	149	84	53	123	40	12,549
Kentucky	Sept.		630	2	76	490	179	103	9	2	15	7	18	17	2	1,550
	9 Mos.		4,372	20	676	3,739	1,194	1,111	79	20	130	95	129	121	28	11,714
Louisiana	Sept.		795	4	139	533	186	155	9	1	15	10	15	6		2,168
	9 Mos.		6,004	29	887	6,019	1,287	1,422	59	9	204	133	109	65	13	16,240
Maine	Sept.		233	5	38	206	86	83	13		12	5	9	21	7	718
	9 Mos.	2	1,523	12	289	1,285	472	533	124	2	92	52	99	163	42	4,690
Maryland	Sept.	3	397	7	120	405	74	134	6	6	9	21	4	2	14	1,202
	9 Mos.	22	2,732	37	767	2,721	435	1,030	146	45	95	157	48	86	57	8,378
Massachusetts	Sept.	2	379	4	65	419	92	131	15	7	6	20	19	33	25	1,217
	9 Mos.	31	2,827	76	739	3,531	678	1,297	245	70	87	261	119	268	209	10,438
Michigan	Sept.		1,518	15	283	1,650	363	211	14	26	32	40	34	47	32	4,265
	9 Mos.		10,282	149	2,478	10,951	2,513	1,851	176	158	237	243	227	310	253	29,828
Minnesota	Sept.		546	7	110	554	238	192	24	9	18	2	13	25	16	1,754
	9 Mos.		4,400	60	890	4,685	1,101	1,970	88	34	201	76	78	184	93	13,880
Mississippi	Sept.		729		75	739	190	205	5	1	20		6	7	1	1,978
	9 Mos.		4,910	2	625	4,374	1,199	1,204	47	1	149	30	38	58	5	12,642
Missouri	Sept.		995	10	187	749	275	205	8	7	12	25	7	5	10	2,495
	9 Mos.		7,257	106	1,132	6,247	1,705	2,212	55	36	144	220	87	102	60	19,363
Montana	Sept.		320		50	312	114	145	3	2	15	6	13	53	5	1,038
	9 Mos.		1,825	3	414	1,686	663	790	45	17	142	50	158	404	51	6,248
Nebraska	Sept.		288	15	59	396	90	118	8	1	8	13	12	18	6	1,032
	9 Mos.		2,713	107	549	2,904	706	1,503	38	22	98	95	76	149	182	9,142
Nevada	Sept.		32		7	18	18	23		1	8		11	4	1	123
	9 Mos.		464		172	500	226	230	2	2	100	1	57	113	7	1,874
New Hampshire	Sept.		99	3	14	73	30	24	14	1	2	5	6	14	2	287
	9 Mos.	6	693	8	193	673	190	220	70	14	45	24	69	130	26	2,361
New Jersey	Sept.	18	636	18	172	631	234	163	53	4	17	73	12	21	35	2,087
	9 Mos.	141	4,820	114	1,586	5,075	1,654	1,709	421	45	140	505	106	209	292	16,817
New Mexico	Sept.		322	1	41	215	100	47	17		6	11	16	29	2	807
	9 Mos.		2,129	16	383	1,577	577	470	78	5	70	29	109	151	20	5,614
New York	Sept.	37	1,293	17	389	1,143	430	546	100	80	37	134	51	100	77	4,434
	9 Mos.	363	9,721	244	3,678	9,424	2,911	5,602	986	414	334	1,017	512	838	580	36,624
North Carolina	Sept.		1,140		118	1,100	229	209	23	1	27	22	19	18	9	2,915
	9 Mos.		7,135	35	1,113	6,217	1,497	1,350	276	19	261	281	133	108	45	18,470
North Dakota	Sept.		198		45	186	68	116			8		3	11	1	638
	9 Mos.		1,165	2	280	1,132	367	841			49	4	26	46	3	3,915
Ohio	Sept.	2	1,287	18	205	1,125	353	416	60	16	21	66	37	50	29	3,685
	9 Mos.	6	9,934	157	2,382	10,250	2,231	4,344	426	129	304	709	296	354	391	31,913
Oklahoma	Sept.		766	4	101	712	175	222	3	1	22	11	6	12	7	2,042
	9 Mos.		5,253	14	759	4,702	1,199	1,635	45	15	152	115	59	85	38	14,069
Oregon	Sept.		387	6	84	324	164	121	15	5	18	101	19	72	22	1,338
	9 Mos.		3,289	72	776	3,149	1,186	1,230	139	34	241	339	235	701	238	11,629
Pennsylvania	Sept.	19	1,407	15	375	1,292	369	555	97	39	47	111	8	66	56	4,456
	9 Mos.	168	9,645	138	2,965	9,732	2,328	5,036	792	184	420	760	60	726	241	33,195
Rhode Island	Sept.		90	9	17	86	11	44	21	4	3	5	1	4	4	299
	9 Mos.	2	650	37	155	660	117	319	74	16	25	54	18	34	28	2,187
South Carolina	Sept.		1,026		131	252	68	43	8		4	11	2		2	1,547
	9 Mos.		3,353	7	605	2,515	598	540	70	1	64	85	24	27	7	7,896
South Dakota	Sept.		121	2	15	162	33	79			6	1	10	10	1	440
	9 Mos.		1,036	18	249	1,223	335	863	2	4	47	14	75	116	2	3,984
Tennessee	Sept.		599		72	564	131	169	30	6	15	13	4	5	1	1,609
	9 Mos.		4,787	22	956	4,702	1,279	1,435	214	34	140	209	79	78	15	13,950
Texas	Sept.		2,782	11	227	2,153	441	468	51	3	44	90	51	39	26	6,388
	9 Mos.		22,500	103	2,790	19,476	3,683	5,522	350	41	566	905	390	378	117	56,821
Utah	Sept.		152	1	63	159	86	45	4	1	7	11	6	22	13	570
	9 Mos.		1,110	8	359	1,081	405	397	26	9	57	45	94	213	49	3,853
Vermont	Sept.	1	83		13	43	25	27	1		3		13	20	2	231
	9 Mos.	5	623	7	162	536	218	308	10	7	28	4	130	182	14	2,234
Virginia	Sept.	1	624	2	115	579	169	149	13	7	14	44	15	22	12	1,766
	9 Mos.	5	5,007	19	1,131	4,922	1,182	1,333	350	64	210	221	178	230	73	14,925
Washington	Sept.		478	9	161	476	224	155	17	4	18	28	24	54	19	1,667
	9 Mos.		3,256	45	1,077	3,349	1,511	1,469	134	40	163	161	218	427	158	12,008
West Virginia	Sept.		367	1	84	304	130	87	11	1	17	12	24	44		1,082
	9 Mos.		2,360	15	707	2,250	696	634	87	11	126	85	221	260	12	7,464
Wisconsin	Sept.		421	2	61	471	137	186	5		7	8	10	13	17	1,338
	9 Mos.		3,750	25	812	3,896	963	2,145	60	20	130	123	116	162	163	12,365
Wyoming	Sept.		171	1	20	124	52	34	3		5	5	13	27	6	461
	9 Mos.		1,055	4	206	898	377	342	13	3	43	24	127	309	22	3,423
Total	September, 1955	86	32,133	330	5,664	28,443	8,560	8,261	877	344	834	1,469	831	1,328	764	89,924
Total	September, 1954	135	24,403	200	4,585	21,590	5,111	6,257	509	192	532	679	657	1,017	307	66,174
Total	9 Months, 1955	776	233,299	2,680	50,376	222,673	58,609	77,992	7,761	2,228	8,550	10,443	7,215	11,886	5,978	700,466
Total	9 Months, 1954	969	223,699	2,011	44,931	206,903	51,293	61,423	4,571	1,734	7,860	8,513	5,502	5,807	3,643	628,859

* Data from R. L. Polk & Co.

First for Faster Service...

AUSCO JACKS

NOW, 2, 4 and 10-TON Hydraulic Service Jacks

TOUGH DEPENDABLE and SAFE

✔ Low, rugged steel chassis equipped with swivel rear wheels, position easily—won't "hang-up" when dollying or positioning over uneven floors.

✔ Simple, quick-acting pump and release mechanisms get the load up and down fast and safely. The 4 and 10-ton jacks feature hand or foot operated *fast-lift* lever—makes spotting quicker, more convenient and speeds travel of saddle to load.

✔ There's no jack engineered for safer operation than an Ausco! Ausco Hydraulic Service Jacks lift to 24" and hold safely! Safety valves prevent overload. Heavy steel frame and arm built for long service under capacity loading.

There you have it—Ausco . . . first for faster service. Call or visit your Ausco Jobber, or write today for information.

AUTO SPECIALTIES MFG. CO., INC.
Dept. CC-12, Saint Joseph, Michigan.
Other plants in Benton Harbor and Hartford Mich. and Windsor, Ont., Can.

Ausco **all-steel garage horses** provide safe, efficient support—release floor jacks for maximum use. Available in 2 and 5-ton models.

. . . the WASHO Road Test

Continued from Page 81

in all of the under-designed sections."

The Test Trucks

The trucks began rolling late in 1952, continued in 1953 and concluded their test runs early last year. In all there were 260 days of test operation with slightly over 237,000 load applications over each test section, an average of over 900 trips a day!

Four different weight categories of test vehicle combinations were used, as follows:

1. Two-axle tractor with single-axle trailer loaded to 18,000 lb on driving and trailer axles, about 40,000 lb GCW.

2. Two-axle tractor with single-axle trailer loaded to 22,400 lb on driving and trailer axles, about 50,000 lb GCW.

3. Tandem-axle tractor and tandem-axle trailer loaded to 32,000 lb on each of the tandem-axles, about 72,000 lb GCW.

4. Tandem-axle tractor and tandem-axle trailer loaded to 40,000 lb on each of the tandem-axles, about 90,000 lb GCW.

It should be noted that for most states the combinations—with the exception of the 18,000-lb single-axle trailer and two-axle tractor combination—would be over present weight limits. The 22,400-lb single-axle combination at about 50,000-lb GCW would be limited to nine states that permit a 22,400-lb axle. The 32,000-lb tandem-axle trailer and three-axle tractor combination is commonly pictured as the average western rig. It is presently legal in only nine western states and one eastern state. The 40,000-lb tandem-axle combination with 90,000-lb GCW exceeds GCW limits in all states.

Keeping these facts in mind, let us turn to the actual condition of the test road at the conclusion of the test.

Patches and Cracks

The cross-hatched areas on the diagrams indicate what the report refers to as a "deep patch." This amounted to complete reconstruction of the road at that point. The single-hatched areas are "skin patches" defined in the report as "A thin layer of cold bituminous mixture applied over the surface course . . ."

Cracking is indicated by blocked areas without shading with numbers ranging from 1 (indicating "Fine cracks with no well defined pattern.") to 4, the most severe cracking before skin patches were thought necessary by the engineers.

2-in. Surface

Considering first the effect of the test traffic on the test lanes with

(TURN TO PAGE 110, PLEASE)

DEMURRAGE PROBLEMS?

THESE **LEASE CYLINDERS** ——→
MAY BE THE ANSWER

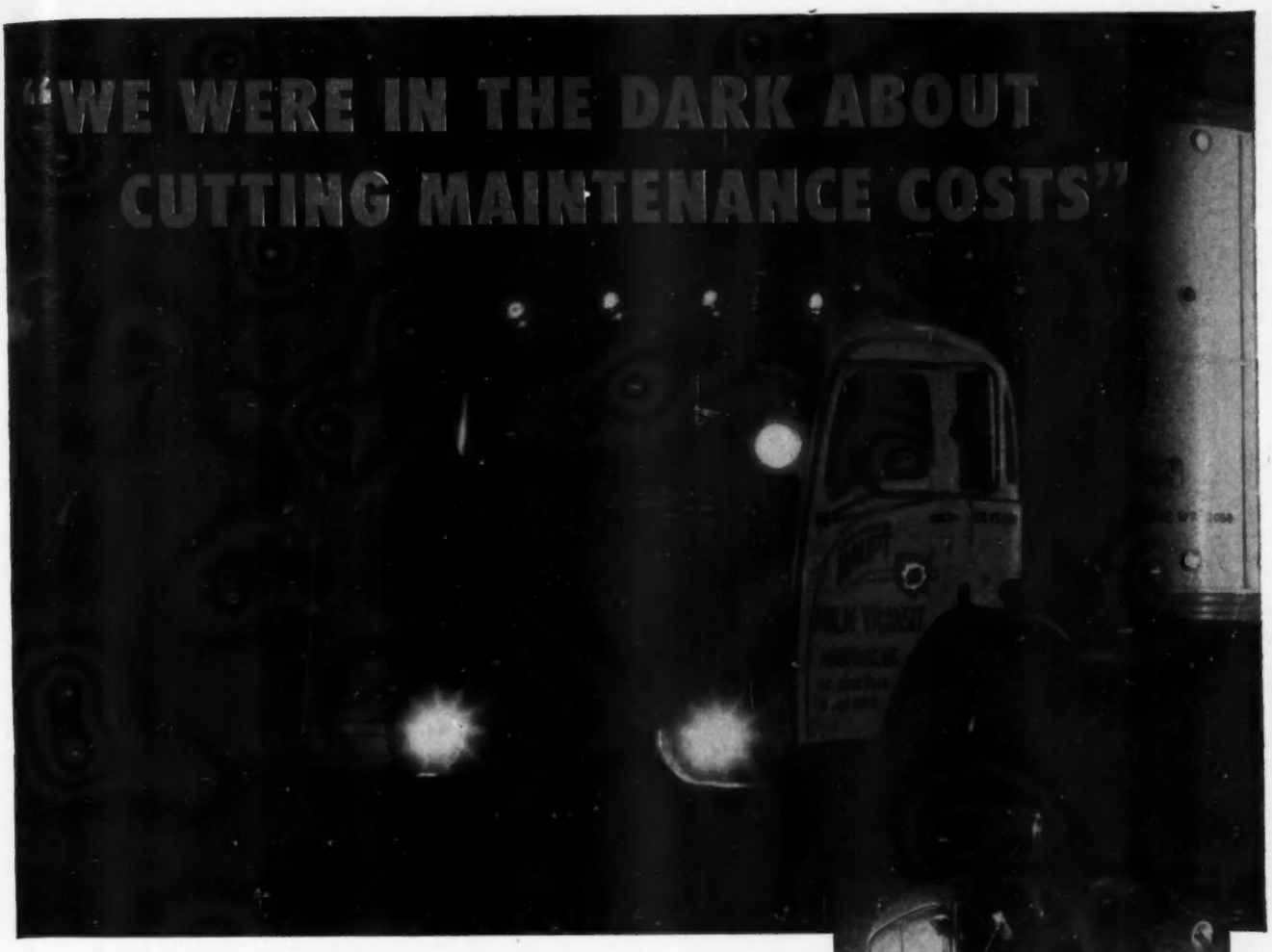
- **AVOID DEMURRAGE CHARGES**
  If regular loan cylinders last you longer than 30 days, you can avoid demurrage charges with these lease cylinders.
- **CHOICE OF CYLINDER SIZES**
  Two sizes each of oxygen and acetylene cylinders are available under lease agreement.
- **STEADY SUPPLY ASSURED**
  Stocks of full cylinders are maintained in even exchange for your empties. You pay only for gas. No waiting for cylinders to be filled.
- **NO MAINTENANCE OR REPAIR COSTS**
  LINDE maintains your lease cylinders against normal wear and tear and retests them periodically at no cost to you.
- **ASK FOR FULL DETAILS TODAY**
  Let your LINDE distributor show you how much you can save by leasing oxygen and acetylene cylinders. Or write for further information. LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 E. 42nd St., New York 17, N. Y. In Canada: Union Carbide Canada Limited, Toronto.

Cylinder	Style	Capacity, cu. ft.	Height, in.	Diameter, in.	Weight	
					Full lb.	Empty lb.
Oxygen	Q*	80	35	7⅛	70	65
	S	150	51	7⅜	92	80
Acetylene	WQ	60	24¼	7⅜	55	51
	WS	133	35½	8½	78	69

*In some areas, Style XL, 70 cu. ft.

GET IT FROM YOUR **LINDE** DISTRIBUTOR

The term "Linde" is a registered trade-mark of Union Carbide and Carbon Corporation



"But a switch to Cities Service C-300 Motor Oil lighted the way to a 33⅓% reduction in maintenance costs!"

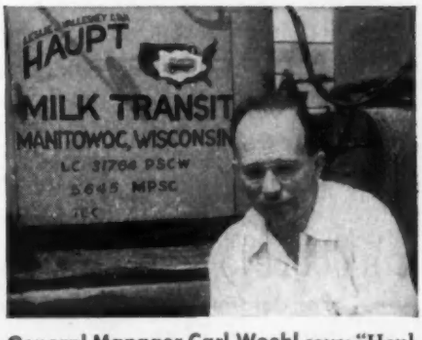
Haupt Milk Transit Company, Manitowoc, Wisconsin, hauls milk and milk products throughout Wisconsin, upper Michigan and as far as Texas and Pennsylvania. Trucks, carrying 4000-gallon loads, average 80,000 to 100,000 miles per year.

"Three years ago," reports General Manager Carl Woehl, "our tractors were getting 75,000 miles between overhauls . . . and maintenance labor costs were becoming heavy. Then we switched to Cities Service C-300 Motor Oil.

"TO OUR SURPRISE, THIS UNUSUAL OIL NOT ONLY INCREASED THE PERIOD BETWEEN OVERHAULS FROM 75,000 TO 100,000 MILES, BUT ACTUALLY CUT OUR MAINTENANCE COSTS ONE THIRD! In addition, we found that oil consumption was cut two-thirds between 2500 mile changes with Cities Service C-300 . . . and the oil's high detergency has given us cleaner engines than ever before. Cities Service sure took us out of the dark about cutting maintenance costs!"

Why not enjoy a similar cost-cutting in your fleet operation? You can with Cities Service Lubricants. Contact your nearest Cities Service Office or write: Cities Service Oil Company, Sixty Wall Tower, New York 5, N.Y.

Haupt Got Double-Barrelled Results using Cities Service C-300 Motor Oil. Maintenance Costs for its 14 tractors dropped 33⅓%, and period between overhaul was increased from 75,000 to 100,000 miles.



General Manager Carl Woehl says: "Hauling 4000 gallons of milk over long distances puts a lot of strain on a truck engine. Nevertheless, Cities Service C-300 Motor Oil cut oil consumption from three or four quarts every 2500 miles, to one or two quarts for the same distance."

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS

. . . the WASHO Road Test

Continued from Page 108

2-in. surface and 4-in. base (left hand page), extensive cracking and patching in the sections with little or no sub-base is apparent. This does not illustrate so much the effects of truck traffic as it does a poorer road design for modern traffic. As compared to the 4-in. surface and 2-in. base design on the facing page, it does not support any axle loading as well.

Note that a deep patch was required in the 18,000-lb axle lane in the 12-in. sub-base area but that none was needed in the corresponding area in the 22,400-lb axle lane. This is a graphic illustration of the fact that it is not necessarily heavier axle loading that wears out roads. Often, as might have been the case here, a defect in construction or the underlying soil is at fault.

4-in. Surface

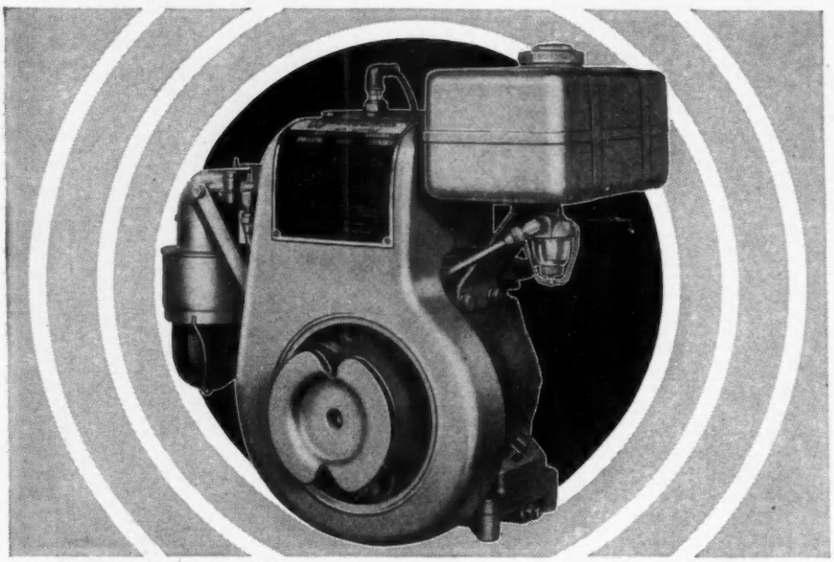
The diagram on the right hand page clearly shows that except where there is no sub-base, a 4-in. surface and a 2-in. base asphaltic road stands up well under both 18,000- and 22,400-lb single-axle loadings. This type of road, when subjected to 32,000- and 40,000-lb tandem-axle loadings shows a similar pattern as with the single-axle weights, i.e., the road stands up well except where there is little or no sub-base.

The deep patch area in the 40,000-lb tandem-axle lane is another illustration of what could well be a fault in construction or underlying soil. Were the failure here due to heavy axle loadings, it might be logically expected to find lesser patches and cracks on both sides of the deep patch area rather than the isolated failure that actually occurred.

Standard Road

Says the report from H. A. Flanakin, "Their experience led the en-

(TURN TO PAGE 112, PLEASE)



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***Air-Cooled* ENGINE**
The Model BKN 3.2 to 6.8 H.P.

Brand new in design, this engine meets the increasing demand among original equipment manufacturers and engine power users for a compact, light weight, HEAVY-DUTY Air-Cooled Engine that offers a broad, flexible power range.

With a 17.8 cu. in. displacement, the new Model BKN delivers 6.8 hp. at its top speed of 3600 rpm., and 3.2 hp. at a minimum speed of 1600 rpm. Incorporated in this engine are all of the traditional Wisconsin Heavy-Duty features, including tapered roller bearings at *both* ends of the crankshaft; high tension rotary type *outside* magneto with Impulse Coupling; pump-circulated, constant-level splash lubrication system and efficient AIR-COOLING at all temperatures from sub-zero to 140° F.

For detailed specifications write for Bulletin S-183.

WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 46, WISCONSIN

A 8545-IAA

Trucking Along . . .

By Bess Ritter

History tells us that there were fleet operators all the way back in the second century BC in the city of Rome. One of these is even remembered by name: Marcus Quintus. He owned 14 chariots which could be hired to transport passengers or goods to any part of the republic. In addition, his fleet included five big wagons which travelled a scheduled route each month between Rome and the southern cities and towns. Business must have flourished, because when Quintus died in BC 114, he left a fortune equivalent to more than one million dollars in modern American purchasing power.

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"A long grade like that's a cinch with a Midland compressor working for you . . . Shucks—I always have plenty of air for any kind of emergency—long hills or the steady stop and go of city traffic jams. My Midland compressor keeps my air tanks full *all* the time . . . That's why my boss has standardized on Midland air brakes and compressors all the way through his fleet. He's smart!"

Yes, it *is* smart to insist on a Midland Compressor, for Midland gives you these big advantages:

Greatest Efficiency—Due to patented automatic inlet valves built into cylinder head.

Minimum Oil Consumption—Due to lack of high vacuum on suction stroke.

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Integral Governor — Governor mounted on compressor simplifies installation.

Less Weight—A very important factor for today's operators.

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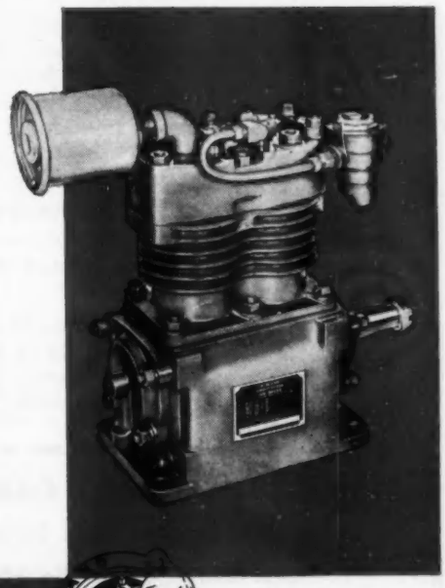
For complete details, see your nearest Midland dealer—or write factory direct.



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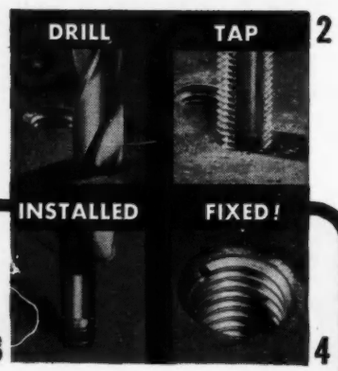
MAKE SIMPLE, SAME-SIZE REPLACEMENTS

on the spot with HELI-COIL* Shop-pack



Now you can replace rusted, busted, worn out, torn out threads due to broken bolts, frozen studs, excessive wear, etc., *on the spot.* Drastically cut downtime, mechanics' time, eliminate welding and plugging! *Heli-Coil* Shop-pack gives you an economical, quick means of permanently replacing any thread size from 6-32 to 1½-6 in N.F. and N.C. series (available also in pipe thread sizes)... in any machine tool, engine, vehicle, appliance, building or furnishing you use, operate or service.

All you do is (1) drill out the hole, including stub of broken screw or stud; (2) tap new threads with the *Heli-Coil* tap; and (3) wind in a *Heli-Coil* Insert using the inserting tool provided. The result is a permanent, back-to-original size, stronger-than-ever repair... made in minutes!

It's as simple and *sure* as that. There is a *Heli-Coil* Shop-pack for every size thread. Each contains a tap, inserting tool and a generous supply of *Heli-Coil* Inserts, and full instructions. Call your supplier or mail the coupon *today* for Shop-pack details.

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. . . the WASHO Road Test

Continued from Page 110

gineers of the western states to designate a road 18-in. thick as the WASHO test standard for a load of 18,000 lb per single-axle load." Looking down the 12-in. sub-base columns in both diagrams, across the various axle-load lanes, little damage is apparent in this standard road.

When this is considered together with the fact that the rigs used in the testing (with the exception of the 18,000-lb axle combination) would be legally overweight in most states, a strong case can be made that an adequately built highway will support greater axle loadings than are now permitted.

Tandem-Axle Question

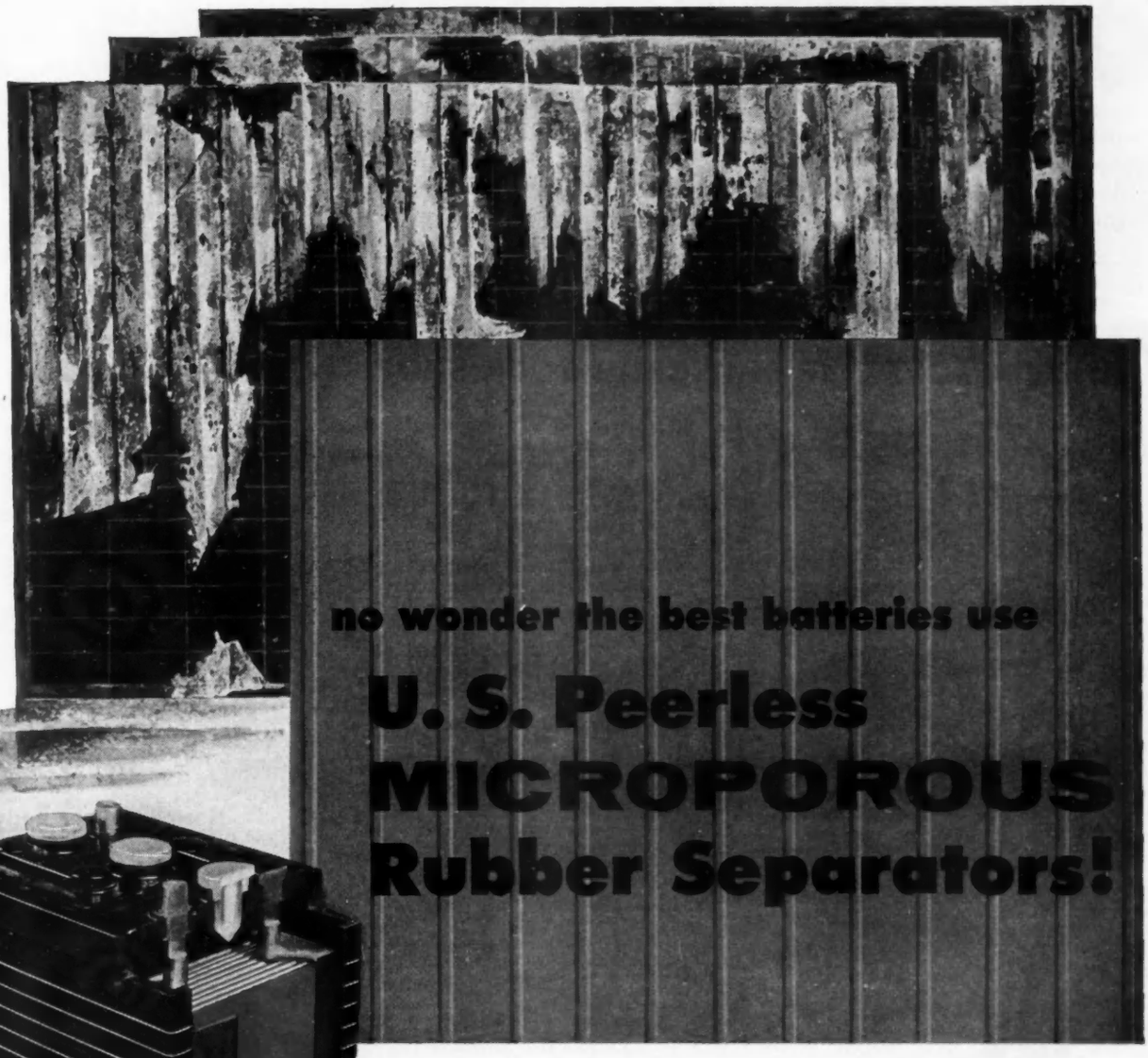
Says the report in its synopsis of findings, "In general, the distress (road damage from the lightest cracks to deep patches) caused by tandem axles was equivalent to that caused by single axles of the order of two thirds of their weight." That is to say a 40,000-lb tandem-axle causes as much wear as a 26,666-lb single-axle.

But, says the report in regard to this conclusion, "In connection with the possible application of these values to pavements and conditions other than those at WASHO, it should be borne in mind that they (1) are valid only for the conditions obtained in the WASHO Road Test, (2) were developed by interpolation of certain of the condition data for the 2-in. surfaced pavement, and (3) are based on the final condition of duplicate pavement sections subjected to different loading treatment (twice the number of individual axle loads were applied by the tandem axle vehicles than by the single axle vehicles). It is emphasized, however, that the relationship between the effects produced by single-axle and tandem-axle trucks varies depending upon the type and thickness of pavement and the position of loading (e.g., edge or interior)."

Also, it should be noted that this

(TURN TO PAGE 114, PLEASE)

More DURABLE than any other battery separator...

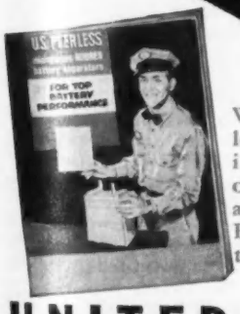


no wonder the best batteries use

U. S. Peerless MICROPOROUS Rubber Separators!

Battery acid and plate material have a highly corrosive effect on ordinary separators, especially at high temperatures. Charring, pinholing, pitting and disintegration are common results. *But not* with *U. S. Peerless Microporous Rubber Separators.* These durable, money-saving battery protectors have greater resistance to oxidation than any other known separators. Laboratory and road tests proved this beyond the slightest doubt.

U. S. Peerless Separators are so durable that the plates can never break through them. They will not get mushy or soft during battery life—will maintain original toughness. They cannot be harmed by battery acid, overcharging, or heat. They deliver 20% faster cranking speed because of high porosity. In cold weather, they deliver 10% more power when needed most. Cost per month is far less for Peerless-insulated batteries than for batteries with ordinary separators. For more mileage per battery dollar, order batteries equipped with United States Rubber Company's Peerless Microporous Rubber Separators.



Write to address below for free copy of informative booklet on the high-performance, low-upkeep U.S. Peerless Rubber Battery Separators.

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US RUBBER

. . . the WASHO Road Test

Continued from Page 112

conclusion was based on a summary of all test data including wear on the under-designed sections. The diagrams of the test highway at the close of test reproduced from the report do not reflect wear in this proportion between single and tandem-axles in the more adequately designed road sections.

Paved Shoulders

An interesting finding from the test is that road wear can be considerably reduced by paving the road shoulder. Says the Report, "Distress in the outer wheel path was considerably in excess of that in the inner wheel path. Surfacing of the shoulders in three of the test sections in July of 1953 proved to be highly effective in retarding distress in the outer wheel path. Both facts suggest that the outer wheel path with paved shoulders is the equivalent of the inner wheel path and testify to the advantage of shoulder paving."

Flanakin's statement notes that increased strength, longer life and reduced maintenance cost would result from paved shoulders, and adds, "An extra benefit from the shoulder paving is the added safety factor it provides for emergencies. While a paved shoulder is not intended to be an additional traffic lane, it does eliminate the danger of sharp pavement edges and soft shoulders, and enables slower vehicles to move temporarily to the right to permit other vehicles to pass safely."

Further Flanakin notes, "In the WASHO test, paved shoulders would have eliminated the bulk of cracking which developed because most of it occurred in the outer wheel path." An inspection of the road diagrams confirms this. There is practically no cracking, except in the under-designed sections with little or no sub-base, in the inner wheel path.

END

Please Resume Reading Page 82

THIS TIRE SPREADER WILL CUT COSTS AND IMPROVE TIRE SERVICE IN YOUR SHOP

Since 1926 Branick Tire Spreaders have been a first choice of tire shops, garages, fleet shops, and major rubber companies. This acceptance has been earned by the savings in time and labor and improved service that results from use of this shop tested equipment.

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TIRE SPREADER
WITH THE
Air-Operated Tire Lift

CHECK these features . .

Lifting tire and spreading is done in seconds; all by finger tip air valve control.

Handles all sizes of passenger, truck and bus tires and most tractor sizes. Takes 12" to 28" bead diameters and 2" to 13.00 cross sections.

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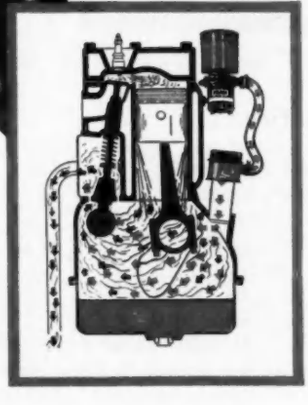
Herman's Beer Body

Herman Body Co., St. Louis, Mo., recently delivered this pallet loading beer delivery body to Carling Brewing Co., Cleveland, Ohio. The new body has a double drop floor with two compartments in front of the rear wheels, one over the rear wheels, and one compartment behind the rear wheels. Capacity of the body is 322 standard beer cartons. Ceiling of body is insulated with 1-in. fiberglass with Masonite lining. A solid divider section 24-in. high runs down the middle of the body. Removable pipe separators extend from this center section to the ceiling and permit working the load from either side of the body. On each side of the body are two sliding doors made of aluminum-clad plywood. Each door, when open, exposes one-half the load space. Body is mounted on White chassis Model No. 3105 with 141-in. wheelbase and 114-in. cab to axle measurement. For further details on similar bodies, circle P 32 on the postcard on page 84.

FRAM Stops Engine Killers!

FRAM Positive Crankcase Ventilator guards against corrosive blow-by gases . . . sludge . . . acids!



FRAM
OIL • AIR • FUEL • WATER
FILTERS

Cold weather, slow speeds and stop and go driving build up contaminants that cause excessive wear . . . loss of power . . . oil deterioration! But not with a FRAM Positive Crankcase Ventilator! FRAM Positive Crankcase Ventilators circulate clean, fresh air that carries off corrosive blow-by gases *before* they can form engine-killing sludge and acids. FRAM Positive Crankcase Ventilators provide a steady flow of air to the crankcase at any vehicle or engine speed. So, get FRAM Positive Crankcase Ventilators for your engines and see the difference in *power*, *performance* and *profit!*

FRAM CARTRIDGES CUT COSTS PER MILE!

Start giving your fleet engines the FRAM clean oil protection that ends excessive wear . . . guards power . . . adds thousands of extra miles between overhauls. FRAM Cartridges are your best bet for longer service at less cost per mile!

FRAM CORPORATION, Providence 16, R. I. Fram Canada Ltd., Stratford, Ont.

Studebaker for '56

Continued from Page 94

matic transmission being introduced for its passenger cars will be optional with the 224.3-cu in. engine.

The 1-ton model has a 4-speed spur gear and an optional 4-speed synchromesh transmission. In the heavier duty models the 4-speed synchromesh, which has been optional for the 1½-ton units, becomes standard equipment and a 5-speed direct drive transmission is optional.

Electric Shift

For the first time, Studebaker will offer on 2-ton models an electric shift with a 2-speed dual purpose axle. With the optional 5-speed direct drive transmission, this will give a choice of 10 speeds forward and two in reverse. New developments for the 1½-ton models are increased rear spring capacity through use of an auxiliary spring as standard equipment, and smaller diameter (17-in.) wheels at no extra cost for lower loading heights.

Advances on the 2-ton model include an increase in frame strength with a side rail of greater depth, width and thickness, a 38 per cent increase in rear spring combined capacity to 6600 lb, and brake boosters as standard equipment (9½-in. diameter).

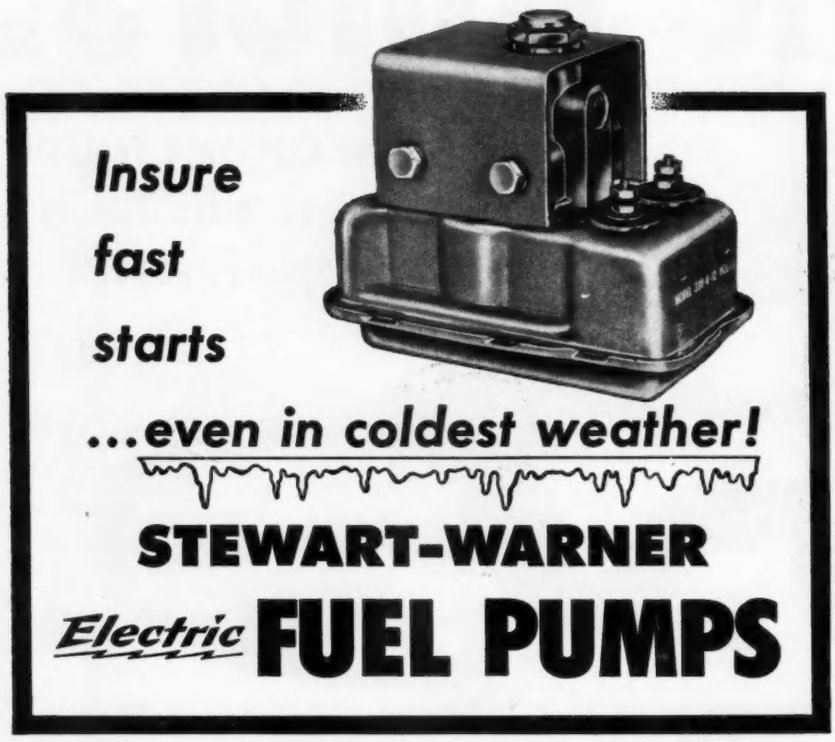
New Cabs

Studebaker will offer a choice of a standard and deluxe 3-man cab for the first time. Features of the deluxe cab include fiberglass insulated headlinings for deadening sound and protection from heat and cold, dual sun visors, foam rubber padded arm rest, sliding seat with finger tip adjustment, new heavy duty saran and vinyl upholstery over a foam rubber seat pad.

Safety features include instrument panel crash pads, optional seat belts, full-width rear window, foot-controlled fresh air ducts, cross-link steering with variable ratio, low center of gravity, enclosed cab steps, and non-glare instrument panels.

END

Please Resume Reading Page 96



Positive fuel delivery, less battery drain, less "roadside time"!

With the exclusive Stewart-Warner diaphragm there are no rotating parts, no pistons. Operating independently of the engine, you are assured of positive, abundant flow of gas the moment the ignition switch is turned on. Works *only* as gas is needed—saves wear—saves battery.

But even more impressive is the money saved in decreased roadside time—longer battery life—improved performance!

Heavy duty construction throughout. Heavy tungsten and platinum switch points combined with booster breaker spring mean no more pitting, arcing, burning. Weatherized finish is bright green baked enamel. Neoprene impregnated gasket seals out rain, roadsplash. Protected under all conditions.

Start now to *save* with Stewart-Warner Electric Fuel Pumps. See your dealer or write:

STEWART-WARNER

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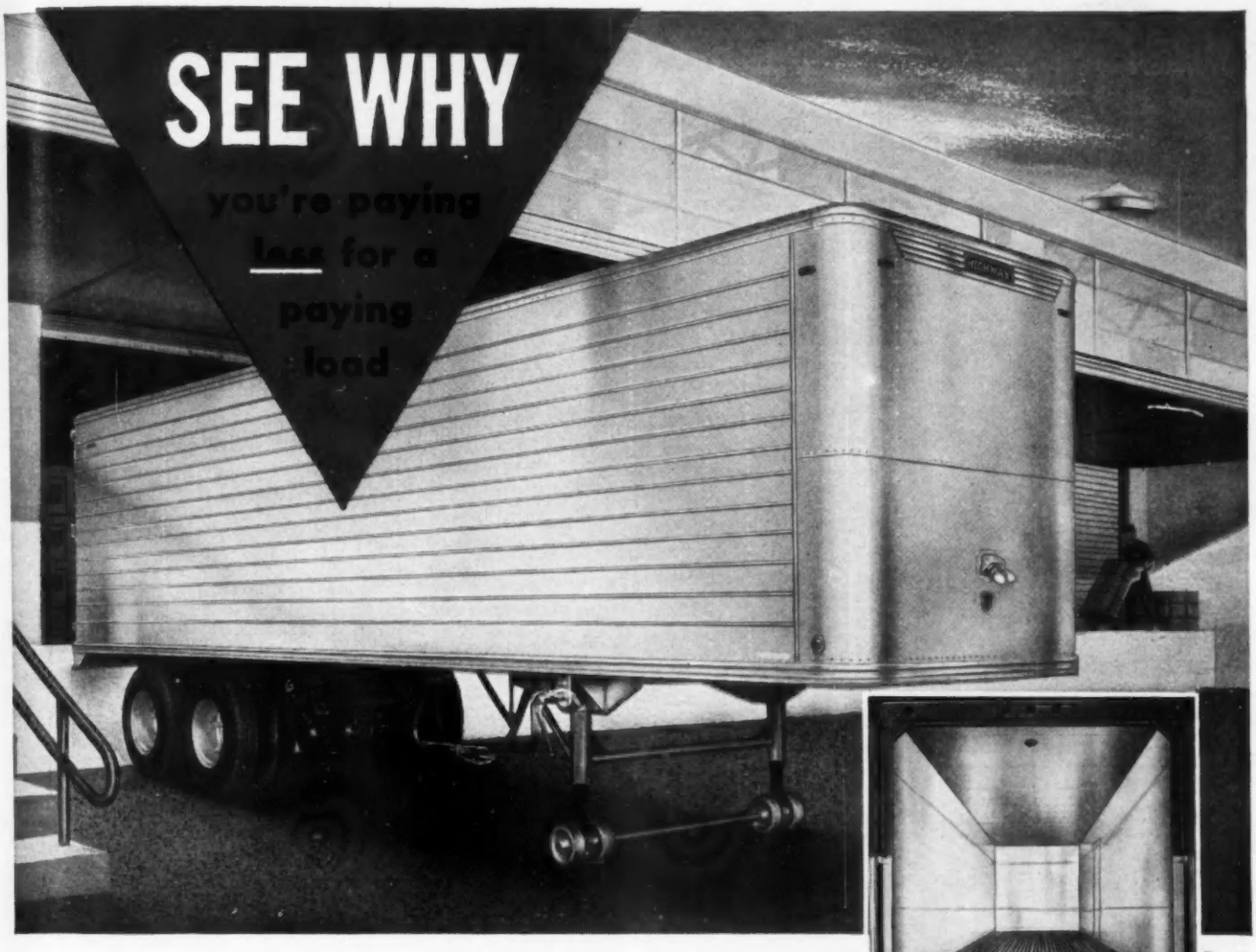
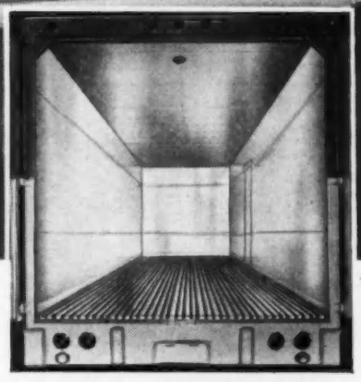
"Or under it either, Pete!"





Reynolds Aluminum Standard Interlocking Trailer Flooring is offered as an important optional feature on light, heavy and full reefer insulated type trailers in both Econovan and Clipper models by Highway Trailer Company. For illustrated brochure on this new flooring write Reynolds Metals Company at address below.

...with Highway "Econovan" Trailers of Reynolds Aluminum

Weight saved in aluminum construction can be added to every payload with Econovan aluminum trailers built by Highway Trailer Company, Edgerton, Wisconsin. Econovan's are available in styles designed for every hauling need. Body types include full-open and closed top vans, as well as light, heavy and full reefer insulated vans.

A new aluminum extruded cap rail of 6061-T6 aluminum alloy braces roof and walls and can't be dented by any normal obstruction. Aluminum roof sheets have a longitudinal center corrugated lap joint, forming a new style semi-flat roof over 2" crown "hat-shape" roof bows. Vertical body panels are load-carrying members riveted to "hat-shape" posts, cap rail and rub rail. Individual aluminum side panels can be quickly and easily removed for maintenance or repair.

Reynolds Aluminum Specialists work closely with equipment manufacturers and their customers. If you, too, would like the assistance of these experienced Reynolds Aluminum Specialists, simply call the Reynolds branch office listed under "Aluminum" in your classified telephone directory. Or write direct to *Reynolds Metals Company, P. O. Box 1800-VJ, Louisville 1, Kentucky.*

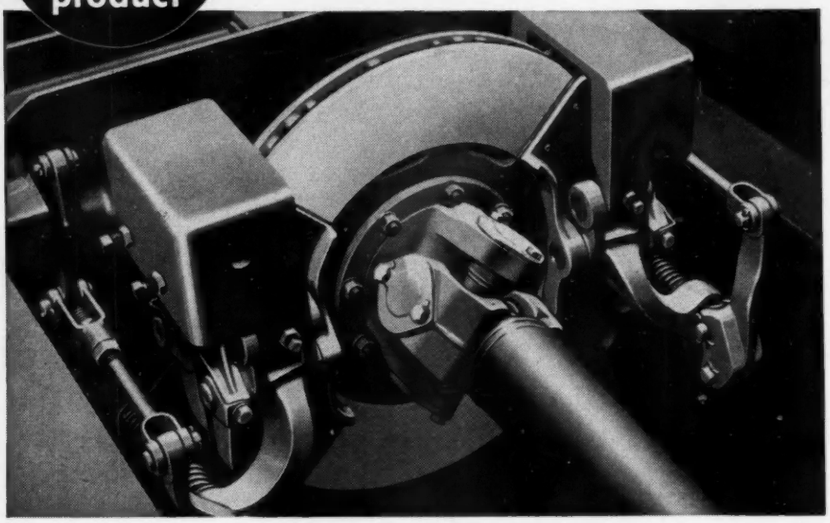
See Reynolds New Program "Frontier"—Sundays on NBC-TV

REYNOLDS ALUMINUM

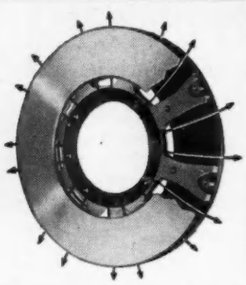
MODERN DESIGN HAS ALUMINUM IN MIND

an ACCO product

It Pays to Specify TRU-STOP Brakes



because they give you Real Emergency Braking...Smooth, Positive Stops...Safe Parking... and Lower Service Costs



Longer Lining Life
• The terrific heat generated in braking cuts lining life. TRU-STOPS quickly dissipate this heat. Most of the disc is exposed to the air even during braking. And a cooling jet of air circulates through the disc, prolongs lining life.

Real Emergency Braking. TRU-STOPS *are real emergency brakes—not just "parking brakes."* They serve as auxiliary brakes on long down-grades and can bring the vehicle to a smooth, quick stop if service brakes suddenly fail.

In fact, TRU-STOPS can do this and more. They can handle the vehicle with safety so it can be removed from the road.

Smooth, Positive Stops. Pressure is in direct proportion to the pull on the brake lever. There is no dangerous self-energizing or "over-braking."

Safe Parking. TRU-STOPS hold on grades—prevent "parking brake" accidents.

Lower Service Requirements. TRU-STOPS are mounted directly on the drive shaft. Their simplicity of design and accessibility reduce maintenance requirements. Relining or adjustment is a simple job for any mechanic with ordinary tools. It is not necessary to drop drive shaft.

Specify TRU-STOPS for factory installation on your next vehicle.

This Booklet gives the complete story on TRU-STOP Brakes. Send for your copy today

ACCO

Automotive and Aircraft Division
AMERICAN CHAIN & CABLE

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Air Force Shops

Continued from Page 75

in organization. Responsibilities, authority and relationships for the various job functions were studied, new job descriptions were written, copies were supplied to each employee, and new organization charts were posted where all shop personnel could see their own job and its relation to other jobs.

Other Improvements

A number of other improvements in the Air Force vehicle maintenance program were developed through the pilot shop system. Inspection schedules were extended, methods for eliminating over-inspection and over-maintenance were developed; modern shop equipment was tested, and an "ideal" shop layout was developed. Studies conducted in the shop resulted in a changeover from blanket work orders covering a number of vehicles to separate orders for each vehicle for inspection or repair.

Data gathering and cost and production control systems were also studied and improved. Standard time, based on flat-rate manuals and manufacturers' recommendations is shown on reports for each job. When actual time on the job exceeds the standard by more than ten per cent, the work order is checked by the shop supervisor. Smaller variations are checked by unit supervisors. Follow-ups on time variations have resulted in better inspections, less lag-time, improved organization, changes in supply procedures and increased training effort.

Production Controls

The improved production controls included a simplified procedure which permits one man to do the work of five in scheduling vehicles through the shop. Using an intercom and a mechanical message carrier system, the man in the control room handles all work orders and can follow the progress of each unit with a minimum of paperwork.

END

Please Resume Reading Page 76)

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with replaceable gauge unit
Comfortable Grip—shaped to fit the hand
Accurate Gauging—continuous visibility of easy to read calibrations—Gauge Unit replaceable in a few seconds
Ease of Operation—Single push-button control of all three —Gauging—Inflating—Deflating
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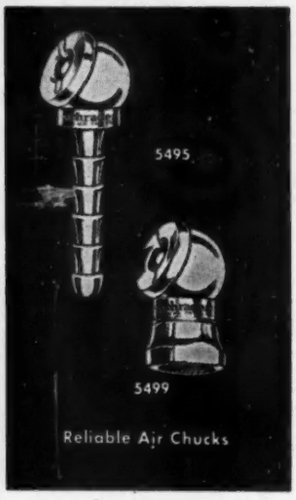
The New Schrader #3650 Type Chuck Gauge



Accurate air pressures mean money to you

Proper air service keeps your vehicles rolling — with less chance of costly roadside flats. These genuine Schrader Products give complete and accurate air service anywhere by simply plugging into the air pipe line like you plug in for electricity. Install a new Schrader Chuck Gauge, *with replaceable gauge unit*, at all your service areas. Teamed up with Schrader Couplers and Adapters, this new Chuck Gauge adds up to air service that saves you steps, time—trouble.

Use Schrader Gauge and *all* Schrader Air Products in your tire preventive maintenance procedures. Order from your supplier today.

5050A—Sell them for customer use
7750T—Handy "dipstick" type Tire Gauge
81068—The Gauge that "certifies" your airlines
71888H—All purpose Service Gauge

Gauges you need for better Air Service

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
470 Vanderbilt Avenue, Brooklyn 38, New York

Schrader®
ESTABLISHED IN 1844

FIRST NAME IN TIRE VALVES

FOR ORIGINAL EQUIPMENT AND REPLACEMENT

Clearing the Static from Mobile Radio

Continued from Page 68

ing comparable tasks during the same time period. For example, if you decide to test radio in ten trucks, compare the performance of these ten trucks with ten other trucks in your fleet doing similar work during the same period of time. Do not compare the performance of radio-equipped trucks with their performance before radio was installed. Such a comparison might be misleading, since a change in business conditions, rather than radio, could be responsible for the change in performance.

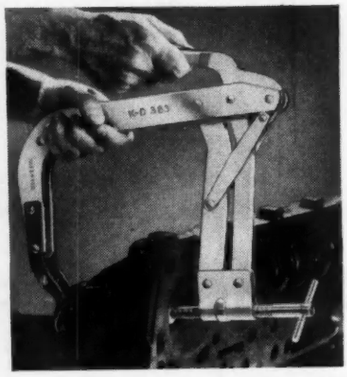
NEW K-D Valve Tools

Specially designed for modern overhead V-8's.

Easier to use and operate. **Speeds** up the Job.

More convenient Operating Handle ends stretching and reaching in awkward positions.

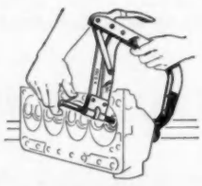
Sturdy build—has what it takes on double valve springs!



K-D 383 COMPRESSOR

Services all the late GM, Ford-built, Chrysler-built, Hudson, Nash, Packard, Studebaker valve-in-head V-8's. Location of Operating Handle on back of frame provides easier handling, faster use. After Plunger Bar is set for first spring, remaining are serviced by opening, closing Operating Handle. Heavy bar steel. No. 32 Offset Jaws furnished. Other interchangeable K-D Jaws available. (No. 35 Straight, No. 38 Extra Hi-Offset.)

Raising first spring to set depth adjustment. On Chryslers—span head with tool, servicing valve from far side.



Magnetic Valve Keeper Inserter

Services this type and size split keeper.

K-D 607. Easy loading, self-supporting on the valve stem. Jaw magnets hold keepers securely in proper alignment. 8 inches long, rustproof cadmium finish.

K-D MFG. CO., LANCASTER, PA.

K-D TOOLS
AT YOUR JOBBER'S

FREE... New K-D Catalog, right-off-the-press! Over 150 Tools to make hard jobs easy. Write today.

2. Allow a reasonable length of time for your drivers and dispatchers to become familiar with radio's use before selecting the time period for testing radio's effectiveness.

3. In comparing the ratio of radio's costs to the benefits obtained, remember that in your test installation the cost per truck of your base transmitter is higher than it would be with more trucks equipped with radio.

4. In looking for savings in operating costs through use of radio look for: elimination of drivers' telephone and parking meter costs; increase in the time drivers spend actually working while on duty (this depends on the dispatcher contacting drivers promptly when they are scheduled to return to duty after lunch and coffee breaks); savings in "dead" mileage through dispatcher's ability to contact drivers in the vicinity of pick-up points; increase in ability to handle late orders.

Worth Reading

Further information on mobile radio is available in a number of publications which may be readily obtained. Rules governing the Land Transportation Radio Service, which includes the Motor Carrier, Special Industrial, and Citizens Radio service were published in the October 13 edition of the Federal Register. This publication brings the rules up to date as of September 1, 1955. It is available for 75¢ from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

The Operations Council of ATA has also produced a report covering many phases of mobile radio as it applies to "for hire" carriers, while The Mobile Communications Section, Radio Corp. of America, Camden, N. J., has produced a management manual and a dispatching manual for truck fleets. Most radio equipment manufacturers can supply publications describing their equipment and its application, and the Bell Telephone System has a brochure describing the services it offers to truck fleets.

END

Please Resume Reading Page 69

FRAGILE LOADS? REYCO'S *the* SAFE and SURE WAY for TRANSPORTING

Eggs **Bananas** **Strawberries** **Liquids**

AND NO DAMAGE TO VEHICLE ON EMPTY OR LIGHT TRIPS!

REYCO

SINGLE OR TANDEM SUSPENSIONS

The new Reyco Model 21 Challenger Series Suspension does everything better! And more economically! Has equalized weight distribution to keep tanker transports from developing into "sprinklers." Eliminates cargo bounce, to handle fragile loads — even eggs, bananas or strawberries. Controls axle hop when vehicle travels light or empty. Has non-lubricated bearings and self-aligning rubber bushings. Eliminates maintenance in interlining. Weighs only 792 to 827 lbs.

COMPLETE SUSPENSION COVERAGE

REYCO MODEL 1100
The first successful 6-point suspension, nationally-known for sturdiness and dependability.

REYCO LONG BOY
For maximum payload capacity in states where long axle spacing is advantageous.

REYCO MODEL 17
The popular streamlined, medium weight tandem.

REYCO MODEL 21
Low-cost, lightweight *Challenger* Series. No lubrication or maintenance required.

REYCO LOW BOY
Famous Reyco Tru-Glyde Ride for "low boy" operation. (Underslung Springs.)

REYCO®

SALES & SERVICE NATION-WIDE

T-355

COPYRIGHT, 1955, REYNOLDS MANUFACTURING CO.

REYNOLDS MANUFACTURING CO.

SPRINGFIELD, MISSOURI

Emergency Braking Systems

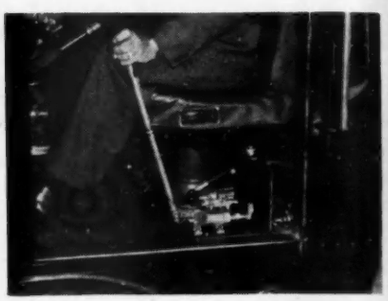
Continued from Page 73

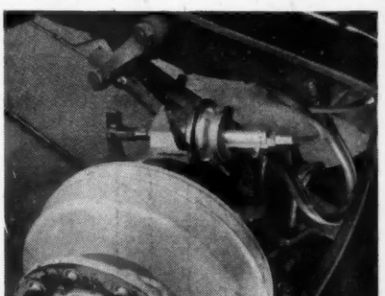
Fawick System

The Fawick "Hydro-Air" emergency brake system is a hydraulically operated system which provides an emergency method of stopping vehicles equipped with air brakes or vacuum brakes and is entirely independent of the air or vacuum systems. This is accomplished without changing the basic action or operation of the standard service brakes. Instead, a completely independent, alternate method of actuating the service brakes is added for use in case of air system failure.

The Fawick brake system utilizes the push rod, mechanical linkage and brakes of the present air braking system. When the air brake system fails, hydraulic pressure can be manually applied to operate the brakes and halt the vehicle under full control by the driver.

When emergency braking is required, the driver manually operates the hand pump, applying hydraulic pressure to the rear of the hydro-air piston that is in contact with the air brake diaphragm and push rod. As the hydraulic pressure moves the piston, it moves the push rod and engages the service brakes. The system is designed to provide the normal maximum adjusted push-rod travel.





The system may be actuated in one of three ways: (1) By a hand hydraulic pump located near the driver; (2) by an engine-driven hydraulic pump; (3) by a separate air reservoir with a driver controlled modulating air pressure valve actuating an air chamber and hydraulic master cylinder.

END

Please Resume Reading Page 74

EXACT PRINTED RECORDS
mean low cost inventory and cost control

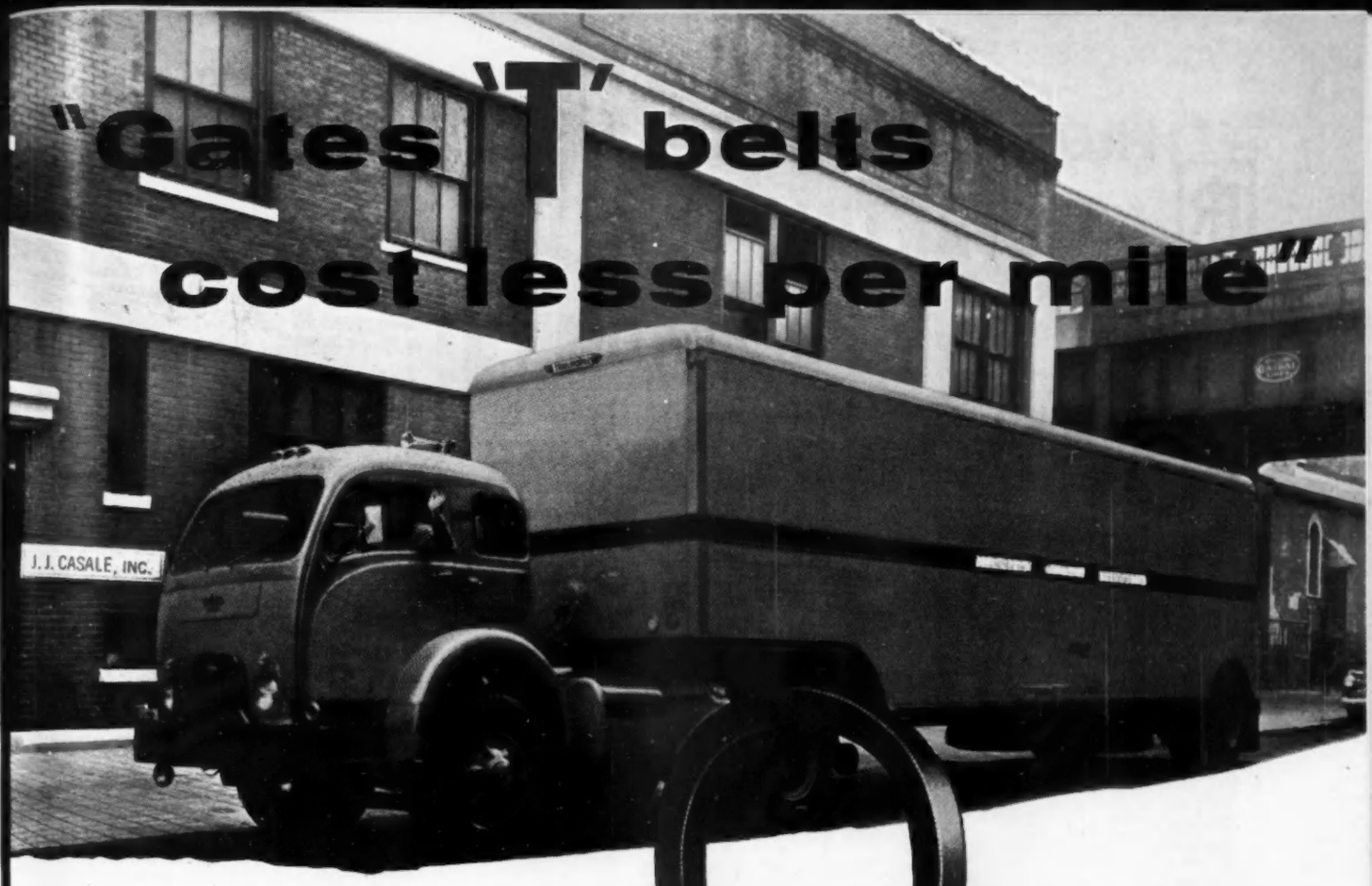
BENNETT
Model 789 Fleetmeter automatically keeps gas records

Built around the famed Bennett pump with its low maintenance cost and simple, trouble-free design, the Bennett Fleetmeter is the most economical method of handling fuel not intended for resale. Fleet garages, boat docks, bus terminals, farms... everywhere inventory control and unit operating cost systems are wanted... there's a spot for a Bennett Fleetmeter.

Ask your John Wood representative about the two basic models—Model 789 that *automatically* prints a receipt, keeps a running record of total gallons dispensed and eliminates errors, and Model 788 with high visibility index and concealed totalizer.

JOHN WOOD COMPANY
Bennett Pump Division
Muskegon, Michigan
In Canada: Toronto • Montreal
Winnipeg • Vancouver

"Gates "T" belts cost less per mile



From coast to coast

economy-minded maintenance men will tell you:—when you install Gates "T" Belts in your equipment, your cost-per-mile goes *down.*

Read the statement printed here from J. J. Casale, Inc. Like other fleet operators from coast to coast, Casale's records prove that the Gates "T" Belt—the belt specially engineered for trucks and buses—costs less per mile than any other belts they have used.

The tough Gates "T" Belt lasts far more miles; practically eliminates road calls due to belt failure. That means net operating time is kept *up,* costs are kept *down.*

Make this test:

Through your nearby Gates Jobber have a Gates Belt Specialist deliver a trial order of belts for some of your equipment. Match the performance, the service life and the per-mile cost of these belts against any you have ever used. The Gates Rubber Co., Denver, Colorado — *The World's Largest Maker of V-Belts.*

Look for this "T"*

It is your assurance of the belt *specially engineered* for trucks and buses—the belt with a *tough* flexible cover and cords of *extra* high tensile strength for *extra* pulling power. *Reg. U.S. Pat. Office.

Gates®

The mark of *specialized* research

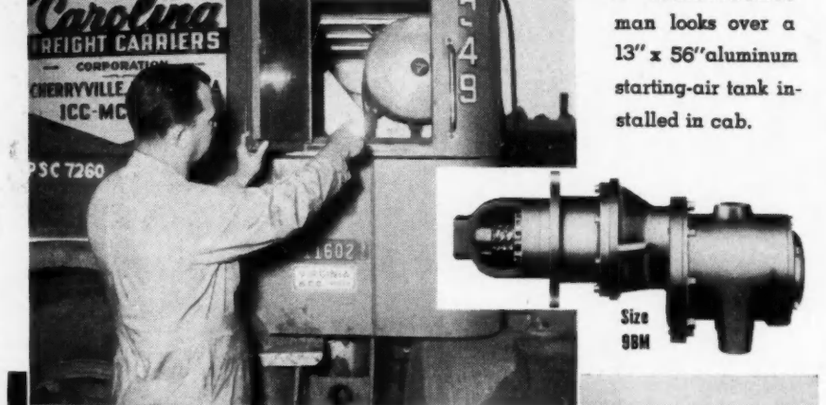
This is Mr. Fred Rohleder, Shop Foreman for J. J. Casale Inc. who operate in excess of 1500 hauling units of all types. They do all their own servicing and repairs, and as Mr. Rohleder says: "I am glad to say that Gates "T" Belts are proving to our complete satisfaction that they cost less per mile. Not only are they lower in cost in the overall picture, but they eliminate road calls due to belt failure almost entirely, because they 'outlive' other belts we have used."

EPA 80

GATES TRUCK & BUS V-BELTS

FREIGHT CARRIER SAYS...
AIR STARTING MOTORS ARE SAVING MORE THAN $33,900 A YEAR

● Maintenance man looks over a 13" x 56" aluminum starting-air tank installed in cab.



● 93 Units Cut Repair Costs 81% — Eliminate Cold-Weather Starting Problems

Carolina Freight Carriers Corp., Cherryville, N.C. reports 93 Ingersoll-Rand Air Starting Motors are returning more than $350 a year per tractor on electrical repair savings alone.

Extra earnings are also enjoyed from the increased freight revenue realized through the 98 pound weight savings on each installation. In addition to these amazing dollar benefits, Carolina Freight now enjoys faster, surer starting regardless of weather, and longer life for generators and remaining batteries.

Want similar savings for your own fleet? Simply contact your truck or engine distributor or write for more details on money-saving Ingersoll-Rand Air Starting Motors. 18A-194

Ingersoll-Rand

11 Broadway, New York 4, N.Y.

Originators of Impactools **AIR & ELECTRIC**

Fleetman's Library

Continued from Page 88

Engine run-in and test stand just announced by Storm-Vulcan, Inc., is described in this new bulletin. Circle L 7 on the postcard on page 84 for a free copy.

Automotive books and manuals published by the Chilton Co. are described in a new 1955-1956 catalog. It covers the Chilton Automobile Repair Manual, Fix Fords, Fix Chevrolets, Fix Plymouths and Handbook of Automotive Shop Kinks. Books by P. M. Heldt described include The Automotive Chassis, Torque Converters or Transmissions, High-Speed Diesel Engines and High-Speed Combustion Engines. For your free copy of this catalog, circle L 8 on the postcard on page 84.

GMC gasoline and diesel-powered truck tools are the subject of this descriptive catalog. It is Kent-Moore Organization's Special Service Tool Manual listing a complete line of special tools to speed work on all parts of GMC trucks. Circle L 9 on the postcard on page 84 for a free copy.

Fire extinguishers of the pressurized, vaporizing liquid type for vehicle and other uses made by American LaFrance Corp. are described in a new 4-page bulletin. For a free copy, circle L-10 on the post card on page 84.

Turbocharged diesel engines are attracting attention these days and Cummins Engine Co. has made available a 16-page, 4-color booklet fully illustrating its turbocharger and explaining its advantages. For your free copy, circle L 11 on the postcard on page 84.

Aluminum trailers can save fleet operators money as the case histories from truck operators contained in this 50-page booklet show. It is published by the Aluminum Co. of America, and you can get a free copy by circling L 12 on the postcard on page 84.

A new brake gage, the "Cali-Brake," has been developed by Johns-Manville for determining diameters of brake drums, shoes or blocks up to 36 in. for both internal and external brakes. It can be used to show out-of-round conditions, and the scale of drum diameters 8 through 12 in. is calibrated

to show oversizes up to .060 in. It provides a rule for measuring width, length, and thickness of lining. The gage is available at nominal cost from your local Johns-Mansville distributor.

Camshaft grinders with capacity up to 100 in. without bolted on attachments made by Storm-Vulcan, Inc., are described and illustrated in this new bulletin. Circle L 13 on the postcard for your free copy.

Hoses for automotive applications—air, driveway signal, spray painting, vacuum cleaner, steam cleaner, car heater, welding, spray, radiator filler, wash rack and air brake—are covered in this new catalog from Automotive Division, Boston Woven Hose & Rubber Co. Circle L 14 on the postcard on page 84 for your free copy.

Dynamic balancing equipment made by Bear Mfg. Co. is described in this new 24-page catalog. It also describes the reasons for dynamic balancing. Circle L 15 on the postcard for a free copy.

"Questioning Drivers and Witnesses in Accident Cases" is the title of a new sound-slide film just offered for sale. Although primarily designed for traffic police education, it may help fleet safety men instruct drivers in obtaining witnesses after an accident. Says the description of the film, it illustrates some of the common types of drivers and witnesses encountered and suggests approaches which will help obtain the most effective testimony. For further information, write Vogue-Wright Studios, 469 East Ohio St., Chicago 11, Ill.

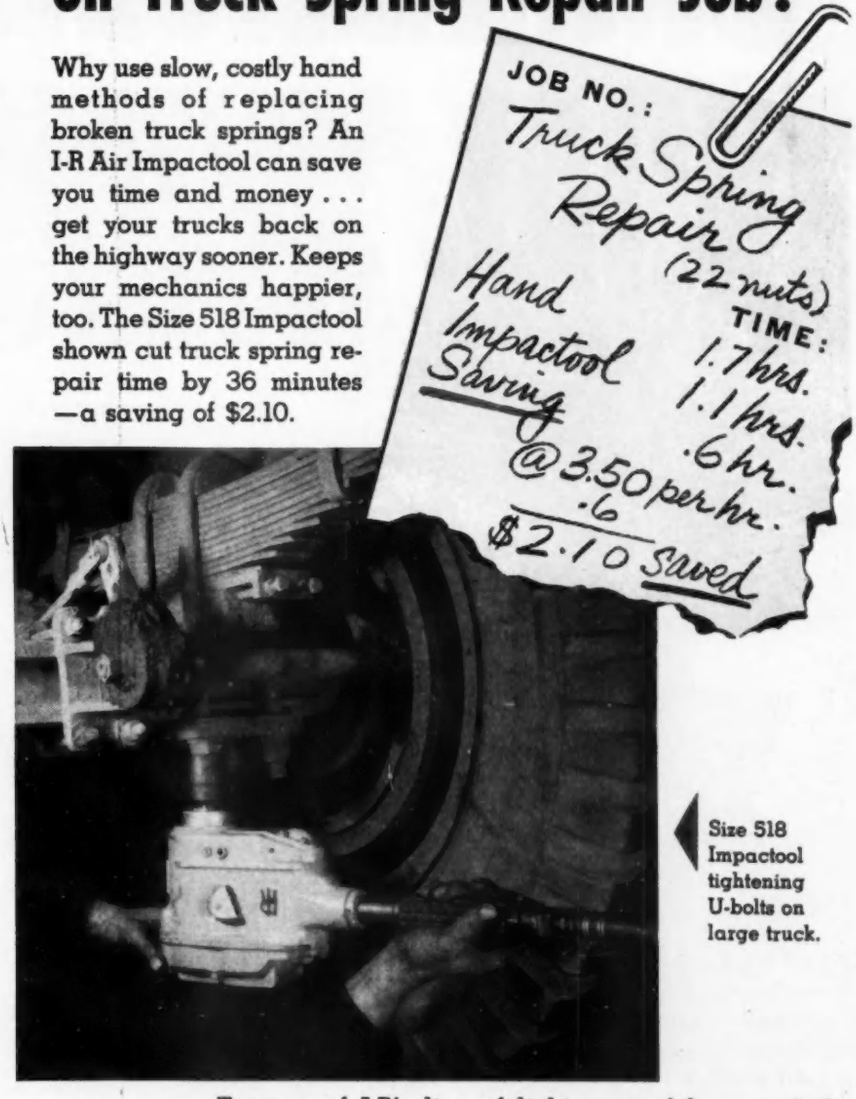
END

Please Resume Reading Page 91

"I don't wish to be a wet blanket, but reverse is the only gear I've got left!"

AIR IMPACTOOL saves 35% on Truck Spring Repair Job!

Why use slow, costly hand methods of replacing broken truck springs? An I-R Air Impactool can save you time and money . . . get your trucks back on the highway sooner. Keeps your mechanics happier, too. The Size 518 Impactool shown cut truck spring repair time by 36 minutes —a saving of $2.10.



Size 518 Impactool tightening U-bolts on large truck.

Try one of I-R's line of light, powerful, rugged Air Impactools today. Call your I-R jobber for a demonstration at no obligation.

Ingersoll-Rand

11 Broadway, New York 4, N. Y.

AIR COMPRESSORS | AIR IMPACTOOLS | ELECTRIC IMPACTOOLS | IMPACUTTERS | TIRE TOOLS | AIR STARTING MOTORS

Originators of Impactools AIR & ELECTRIC

18A-193

The Vast Majority of MAINTENANCE ALWAYS USE

WHY? Because Blackhawks LAST

AND Blackhawks are so TROUBLE-FREE

JACK BOX SCORE ... among the three jack lines most sold to fleets	BLACK-HAWK	LINE X	LINE Z
MACHINED STEEL PUMP HOUSING — Guarantees *longer life* because pump cups operate within a smooth micro-finish steel cylinder (NOT in a hole bored in the base casting). Pump-on-side design allows load to center on base.	YES	NO	NO
MALLEABLE IRON TOP CAP — Greater strength to withstand off-center loading — gives rigidity to entire jack — prevents leakage.	YES	NO	YES
CROSS-MILLED HEAT-TREATED SADDLE — A safe, sure grip on greasy, icy axles at all times. Teeth stay sharp as a hound's tooth — never wear smooth like ordinary saddles.	YES	NO	NO
REPLACEABLE PUMP ASSEMBLY — The parts that get the most wear. Complete cost only $2.06 — can be replaced in the field with ordinary wrench. Screws in like a light bulb. (Pump is not part of a costly base casting.)	YES	NO	NO
68% INTERCHANGEABILITY OF WORKING PARTS — Applies to all models 1½ to 20 tons. Assures lower maintenance and repair costs — faster service if repairs should become necessary.	YES	NO	NO

TAKE a look at this "Jack Box Score" and you'll spot many of the reasons why Blackhawk is the big favorite *among fleets that keep records on their jack experience* . . . All reasons why you too should standardize on Blackhawk.

Blackhawk's G.V.W. design gives you EVEN MORE stamina to handle today's bigger loads, greater lifting spans and broader range of applications. New specifications handle all axle clearances. There's a model for every vehicle.

Dept. J-11125
BLACKHAWK MFG. CO.,
MILWAUKEE 46, WIS.

BLACKHAWK

AWARD WINNERS BLACKHAWK JACKS

LAST LONGER --

FREE

• For the 24th consecutive year . . the majority of the shops receiving "Bus Transportation" maintenance efficiency awards have predominantly used Blackhawk Jacks. And for good reasons! Besides longer life and more dependability, Blackhawk also offers a greater range of types and capacities. Ask for the interesting desk-top demonstration on why it pays to STANDARDIZE on Blackhawk Jacks. When you buy jacks, always buy Blackhawks — and you get them *at new low prices* from your jobber.

NEW! BLACKHAWK RLS OIL
prolongs the life of any hydraulic jack. Ask your Blackhawk jobber for facts!

Yardsticks Show PM Efficiency

Continued from Page 69

efficiency of your servicing operations.

How They Rate

As a matter of interest, here is how the man-hours bus-day for motor bus servicing operations of 28 companies for the first six months of 1955 compare with the adopted servicing yardstick of 1.00 man-hours bus-day.

Companies below 1.00 man-hours bus-day 10
Companies above 1.00 man-hours bus-day 18
Lowest man-hours bus-day 0.59
Highest man-hours bus-day ...2.50
Average—All companies 1.23
1st quartile 0.77
2nd quartile 0.99
3rd quartile 1.21
4th quartile.....1.95
First 3 quartiles ...0.99

These figures would seem to indicate that a yardstick of 1.00 man-hours - bus - day does represent a reasonably attainable degree of efficiency for servicing operations.

Maintenance Par

The tentatively adopted yardstick for maintenance, repair and overhaul is 18.00 equivalent man-hours per 1000 vehicle-miles.

This yardstick, like the yardstick on servicing, was developed from data received in replies to questionnaires. As it pertains to this yardstick, maintenance, repair and overhaul takes into account all labor and materials (exclusive of tires and fuel) associated with lubrication, inspection, running repairs, repairs to units in place on the vehicle, removal of units for overhaul, installation of overhauled units, overhaul of component units, general repair and painting and repairs to damaged vehicles—all as affecting the vehicle and component parts thereof; including all expenditures for "outside work."

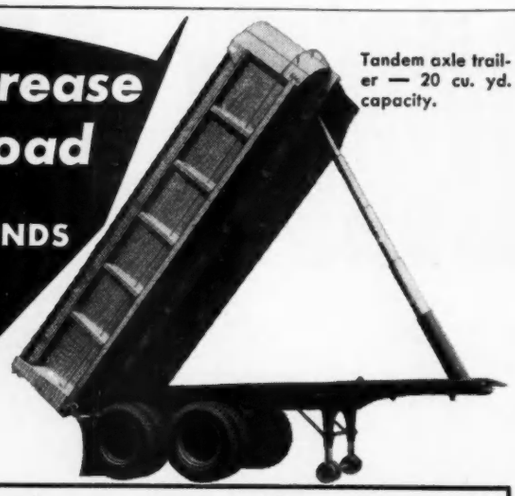
It does not include supervisory or clerical labor or materials associated with the activities of superintendents, clerks, engineers, professional men, stenographers, typists, nonworking foremen and nonworking portions of the time of working foremen, maintenance department stock clerks or maintenance department employees engaged in activities connected with purchasing, or in tool and material issues and other nonproductive functions. Excluded also are labor and materials spent on nonrevenue vehicle maintenance such as maintenance and operation of shop and garage equipment, service automotive equipment, snowfighting equipment, sanders, spreaders, etc.; and other shop and garage expense.

What's Your Par?

To check your operations for any given period against this yardstick

(TURN TO PAGE 130, PLEASE)

Now-Increase your payload 2,500 POUNDS with this



Tandem axle trailer — 20 cu. yd. capacity.

PENN Aluminum Trailer Body and front mounted hoist!

Haul more coal, lime, sand, gravel, asphalt, cinders, fertilizer and bulkgrain.

● Heavier payloads and increased profits result when you haul in Penn Aluminum Bodies. Lighter in weight these aluminum bodies are as sturdy and strong as conventional bodies. Gasoline consumption and tire wear are lessened by the reduced body weight. Body, chassis and hoist as illustrated weigh 9200 pounds as compared with 11,700 pounds for a like steel body—a weight savings of 2500 pounds. On larger bodies the weight advantage is even greater.

PENN FRONT-MOUNTED HOISTS ARE . . .

LIGHTER — because of the single hoist and the fewer parts required for its installation.

EFFICIENT — it places more weight on the tractor axle and less on the trailer chassis axle.

SAFER — all body overhang is eliminated since the load is lifted from the front—greater stability is assured. When in use, this hoist has proved to be more than 95% safer than other types of hoist installations.

ECONOMICAL — the single hoist requires less parts and maintenance.

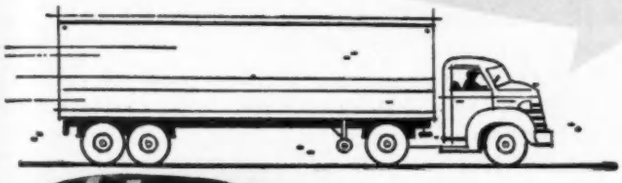
Your Inquiries are welcome

Truck Body Specialists with 22 years experience in the use of telescopic hoists

PENN BODY DIVISION HOCKENSMITH CORPORATION

PENN, PA. Call: Jeannette, Pa., LAfayette 3-5401 . . . Pittsburgh, Electric 1-1242

EXTRA PROFIT-MILEAGE BEGINS HERE



KRAFT®
SYSTEM
RECAPPING
A GENERAL TIRE SERVICE

As more and more fleet operators are learning every day, bonus profit-mileage through quality recapping begins at the sign of the KRAFT System. A rare combination of top-quality material, methods and personnel make KRAFT your outstanding money-maker, mile after mile. For complete information on this business-like, factory-controlled system, call your General Tire Distributor—Headquarters for every Truck Tire Service.

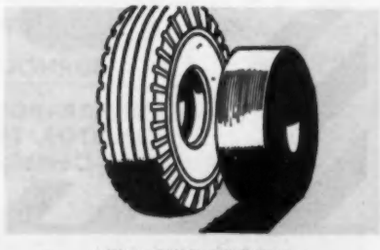
KRAFT—THE ONE NATIONAL RECAPPING SYSTEM DESIGNED BY TRUCK TIRE MEN FOR TRUCKMEN

KRAFT SYSTEM RECAPPING IS AUTHORIZED ONLY BY THE GENERAL TIRE & RUBBER COMPANY

CERTIFIED INSPECTION
Provides full assurance that tires can be recapped safely!

ACCURATE BUFFING
Precision-done for better adhesion of tread to tire body!

EXPERT BALANCING
This step alone can mean up to 25% more low-cost mileage!



NEW TIRE RUBBER
The same high-quality tread rubber used in new General Tires!

PM Yardsticks

Continued from Page 128

it is necessary to perform the following calculations.

1. Determine the total vehicle-miles operated in regular revenue service and special revenue service, including "pull-out" and "pull-in" mileage.

2. Determine the total man-hours of labor spent on all maintenance, repair and overhaul operations as defined above.

3. Determine the total dollar material expenditures on all maintenance, repair, and overhaul operations as defined above. (Note: Total cost of all "outside work" should be included in this category.)

4. Convert the total dollar material expenditures (3) into equivalent man-hours by dividing by $5.00 per hour. (Note: This $5.00/hr conversion factor was adopted after considerable deliberation and tests with other rates of $2.00 and $3.00 per hour. It was concluded that changing the rate had very little effect on the relative order of efficiency, but that the $5.00 rate accorded more logically than the others with current practices in outside servicing industries. The $5.00 rate also appeared to be the more logical for use in connection with new materials purchased when overheads, profits, etc., are taken into account.)

5. Add the total actual man-hours of labor (2) to the material equivalent man-hours (4) to determine the total equivalent man-hours spent on maintenance, repair and servicing operations.

6. Divide the total equivalent man-hours (5) by the total vehicle-miles in revenue service (1) expressed in thousands to obtain a ratio of man-hours per 1000 miles for your maintenance, repair and overhaul operations.

7. Compare your ratio with the adopted standard of 18.00 equivalent man-hours per 1000 vehicle-

(TURN TO PAGE 132, PLEASE)

Autocar's All-Americans

Covering a broad range of applications and featuring increased load capacities, the Autocar Division, The White Motor Co., announces a new series of Autocar trucks and tractors for the extra-heavy hauling jobs. The new "All-American Line" of Autocars includes gasoline and diesel models in either standard or lightweight aluminum and a complete, new series of off-highway trucks. The dimension of the tractor shown above from the bumper to back of the driver sleeper cab was reduced to 128½ in. Featured are heat-treated alloy steel frames, nut and bolt construction, replaceable bushings at critical wear points. Another addition is a new SRDD 44,000-lb heavy-duty tandem axle. The new axle has an inter-axle differential with manually controlled lockout for positive traction when it is needed and straight-line drive for smoother power transmission.

NO AC or DC GENERATOR OUTPERFORMS THIS LOW COST—HIGH OUTPUT DC SYSTEM

60 AMP. 2 UNIT

AMERICAN BOSCH
SPECIAL SERVICE GENERATOR SYSTEM

- PROVED IN THOUSANDS OF INSTALLATIONS
- ONLY TWO SMALL UNITS TO BUY
- EASY TO INSTALL AND SERVICE
- AMPLE OUTPUT FOR EXTRA ELECTRICAL LOADS
- MUCH LESS BATTERY EXPENSE & BELT WEAR

Put a stop to high maintenance costs caused by extra electrical loads that run down batteries. The low-cost American Bosch Special Service Generator System is the answer . . . its remarkable dependability has been demonstrated in countless hundreds of thousands of miles of service for many fleet owners. It requires little driving power and does not reduce top engine speed. It gives you the powerful support that keeps batteries fully charged despite the drain of 2-way radio, extra electrical accessories, frequent idling, or stop-and-go operation.

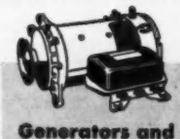
The GRC Special Service Generator is only 5" in diameter. The famous RGR two-stage Voltage Regulator assures positive protection against runaway voltage. Only 2 small units to install and service. The GRC cuts costs in many ways . . . saves installation expense, batteries, belts and maintenance, and gives you more trouble-free miles of service from your fleet vehicles.

• • •

Write for 20-page booklet #3595 for the complete story on the GRC Generator System. Models available in 6 volts 60 amps., 12 volts 30 amps., 12 volts 50 amps. American Bosch, Springfield 7, Mass. A Division of American Bosch Arma Corporation.

AMERICAN BOSCH

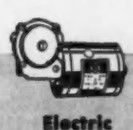
Automotive and Aviation Magnetos


Generators and Regulators

Components for Aircraft Engines

AMERICAN AB BOSCH

Small Electric Motors


Electric Windshield Wipers

Diesel Fuel Injection Equipment

What's best size steam cleaner for your fleet? For this trucker, it's a Malsbary 250 HPC, used to clean dirty tank trailers and tractors before repair and painting. Malsbary users experience shows...

Work Load... Your Guide to Right Size Steam Cleaner

For Large Fleets and Tough, Steady Cleaning—Ruan Transport, big gas and oil hauler of Des Moines, Iowa, uses a Malsbary 250 HPC (high pressure combination) cleaner. It delivers up to 360 gallons per hour of cold water or hot solution with a 300-lb. impact that literally blasts away stubborn road oils, corrosive grease and caked mud. It cleans twice as fast as the largest steam vapor cleaners—4 to 10 times faster than most—has cleaned as many as 33 trailers in a 6-hour period. It also washes shop floors and walls; cleans parts, engines and wheels. Says Shop Superintendent, Truman Baker, "It's best cleaner I've ever seen or heard of."

Same Malsbary 250 can be used for degassing and cleaning tank interiors, rinsing, de-icing and thawing.

For Lighter and Intermittent Cleaning take a tip from Crusty Pie Co., Washington, D.C. Its Malsbary 110 steam vapor cleaner easily keeps pie racks, wagons, engines, and bodies apple pie clean. This cleanliness is real sales builder.

For Parts and Light, In-Shop Cleaning try the small, new Malsbary 60. Its nozzle controlled, simple as a wrench to use. Only $395.

See your Malsbary jobber NOW for the right size cleaner for your job... or write TODAY for literature on full Malsbary line.

Cleaning pie racks, encrusted with crumbs and pie juice, used to take half hour; Malsbary 110 does job in 3 to 5 minutes.

74
MALSBARY
SINCE 1921 MANUFACTURING CO.
Room K, 845 92nd Ave., Oakland 3, Calif.

PM Yardsticks

Continued from Page 130

miles to determine the relative efficiency of your maintenance, repair and overhaul operations.

How They Rank

This is how the most recent equivalent man-hours/1000 miles for maintenance, repair and overhaul operations of the same 28 companies previously mentioned compares with the adopted yardstick of 18.00 equivalent man-hours per 1000 vehicle-miles.

Companies below 18.00 equivalent man-hrs/1000 miles	4
Companies above 18.00 equivalent man-hrs/1000 miles	24
Lowest equivalent man-hrs/1000 miles	14.36
Highest equivalent man-hrs/1000 miles	33.70
Average—	
All companies	22.03
1st quartile	17.07
2nd quartile	19.69
3rd quartile	21.91
4th quartile	29.44
First 3 quartiles	19.65

These figures would seem to indicate that a yardstick of 18.00 equivalent man-hours/1000 vehicle-miles does represent an attainable degree of efficiency for M.R.O. operations but that it may be somewhat difficult to achieve. Perhaps future experience may substantiate the need for an upward adjustment to perhaps 19.00 equivalent man-hours/1000 vehicle-miles to provide a more appropriate M.R.O. standard.

END

Please Resume Reading Page 70

The Superintendent of Maintenance took his wife to Louisville to see the Kentucky Derby. Just as the horses were lining up at the starting gate, the Super's wife grasped his arm nervously and asked him for a safety pin. Meanwhile she grabbed frantically after something that seemed to be slipping around the knees. Just then someone nearby shouted, "They're Off!"

The Super's wife fainted dead away.

Need More Payload Space?

MULTI-STOP DELIVERYMEN FIND MORE "CARGO CAPACITY" IN THE NEW DIVCO "DIVIDEND SERIES" TRUCKS!

THIS NEW DIVCO 130" wheelbase truck will pay dividends to you through its extra-cargo capacity. Picture this: A body load length of 12 feet with capacity of 470 cubic feet!

Here are more dividends for you. The Divco Model 42 was designed especially for fast, efficient multi-stop delivery, for long-life and low maintenance. The super six engine and 4 speed synchromesh transmission, and other power components, are easily accessible from inside the cab. Divco provides comfort and safety through passenger car smoothness of ride, wide-deep driver vision and short-turn-radius maneuverability.

You will cut maintenance costs, get greater protection for your cargo and reduce driver fatigue with the new Divco "Dividend Series" trucks. Phone your Divco dealer now for full information and a demonstration without obligation.

DIVCO CORPORATION, 22000 HOOVER ROAD
DETROIT 5, MICHIGAN

DIVCO TRUCKS

OVER 80% OF ALL DIVCOS PRODUCED SINCE 1927 ARE STILL IN SERVICE!

December News Roundup

Continued from Page 104

Film Available

ATA also has made available a 16mm, sound film, "If the People Know," pointing out how the Week's Committee proposals adversely affect the nation's transportation system. The graphic color film runs 14 min, 20 sec and has been cleared for TV use. Copies for use over local stations or for showing to local service clubs and other groups may be obtained from ATA or from state truck associations, according to the announcement of the film.

Supplier Support

Trucking industry suppliers have been asked to help in the fight against the Transport Policy recommendations. Truck manufacturers, through Automobile Manufacturers Assn., are studying ATA's request for support, will report to the directors of AMA with a recommendation for an industry position.

Teen-Age Road-e-o

National finals of the 1956 Teen-Age Road-e-o will be in Washington, D. C., Aug. 6-9. Chrysler Corp. has joined ATA and Liberty Mutual Insurance Co. as a financial backer of the event promoted by the Junior Chamber of Commerce. Fleet operators should watch for opportunity for participation in their local community's Teen-Age Road-e-o as a means of promoting their fleet public relations.

Driver Trainers

A new training center to be used to teach the men who teach the drivers of the nation's trucks has just been opened by Liberty Mutual Insurance Co. in Hopkinton, Mass. The new center was inaugurated with a field demonstration and instruction program held for 28 management representatives of 18 large bakery fleet operators in New England. The demonstration was designed to show fleet operators practical methods of selecting, testing, and training drivers. The new driving range is a part of a large scientific and technical research center established there by Liberty to probe the causes and cures of all kinds of industrial accidents.

Mack Delivers First 10

Formal delivery of the first of 440 new Mack diesel-powered buses has been made to the City and County of San Francisco under a giant modernization program. The bus order, totaling over $9,000,000, is one of the largest single awards for bus equipment made by any city since World War II. Mack will deliver 100 of the new buses by the end of the year. The remainder of the bus order will be filled over the next five years. The buses, of new light-weight design, have a seating capacity for 48 passengers and are 102 in.

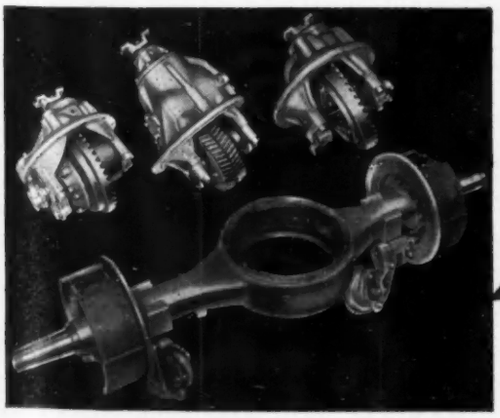
Motor Transport Course

Tri-State College, at Angola, Ind. next September will open a four year course in motor transport management planned as the most complete available in any college or university. Approved and endorsed by ATA, the course is designed to train men for administrative and supervisory posts in the motor transportation industry and will lead to a B.S. degree in Business Administration. Roy Fruehauf, president of Fruehauf Trailer and a trustee of Tri-State, was active in advocating and supporting the course.

(TURN TO PAGE 136, PLEASE)

EATON AXLES

Proven Performance in Every Type and Size



The rugged housing used in famous Eaton 2-Speeds is also used for Eaton single-reduction and double-reduction axles—the three heads are interchangeable.

Behind every Eaton Axle there is almost a half-century of truck axle manufacturing experience. The advanced engineering and quality construction which have made Eaton 2-Speeds famous for stamina and low-cost hauling are also found in Eaton single-reduction, double-reduction, tandem drive axles, and front axles. In more than two million motor trucks, Eaton experience and engineering know-how are reflected in outstanding performance records, minimum hauling costs, and longer vehicle life.

EATON — **AXLE DIVISION**
MANUFACTURING COMPANY
CLEVELAND, OHIO

PRODUCTS: Sodium Cooled, Poppet, and Free Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Rotor Pumps • Motor Truck Axles • Permanent Mold Gray Iron Castings • Heater-Defroster Units • Snap Rings Springtites • Spring Washers • Cold Drawn Steel • Stampings • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers

Foote Lithium Does It!

R. H. Moore,
Superintendent of Equipment,
Conestoga Transportation Co.,
Lancaster, Pa.

From bumper to bumper, all 91 buses operated by the Conestoga Transportation Co. are lubricated with ONE lithium base, multi-purpose grease, and this one lithium grease has been used exclusively for over two years. As a result . . . grease costs have been cut by more than 100% . . . inventory has been reduced, and with one grease instead of three, correct lubrication is assured for wheel bearings, chassis and universal joints.

This is typical of the outstanding performance and savings with lithium grease reported by bus companies, fleet operators and heavy equipment owners all over the country. Why? . . . because a lithium grease combines water resistance with positive lubrication at temperatures ranging from —50°F. to over 350°F.

It will pay you to contact your grease supplier for information about lithium base, multi-purpose lubricating grease.

You'll keep 'em rolling at lower cost per mile with ONE lithium grease.

We will be glad to send you a copy of "Front Wheel Bearing Lubrication," an N.L.G.I. report.

LITHIUM HYDROXIDE FOR INDUSTRY

FOOTE MINERAL COMPANY
445 Eighteen W. Chelten Bldg., Phila. 44, Pa.
RESEARCH LABORATORIES: Berwyn, Pa.
PLANTS: Exton, Pa.; Kings Mountain, N.C.; Sunbright, Va.

December News Roundup

Continued from Page 134

1955 Truck Trailer Shipments*

	September	Nine Months
Vans:		
Insulated and Refrigerated:		
Steel	27	805
Aluminum	387	3,160
Furniture:		
Steel	155	1,318
Aluminum	17	154
All other closed-top vans:		
Steel	1,012	7,236
Aluminum	2,244	16,923
Open-top:		
Steel	146	1,339
Aluminum	336	1,877
Total—Value	4,324	32,812
Tanks:		
Petroleum	493	3,493
All other	52	494
Total—Tanks	545	3,987
Pole, Pipe and Logging:		
Single Axle	54	629
Tandem Axle	137	1,169
Total	191	1,798
Platforms:		
Racks, livestock and stake	160	967
Grain bodies	87	730
Platforms (flats), all types	796	5,910
Total—Platform	1,043	7,607
Low-bed heavy haulers	199	2,123
Dump trailers	211	1,620
All other trailers	325	2,982
Total—Complete Trailers	6,838	52,939
Chassis only	218	2,333
Total—Trailers and Chassis	7,056	55,272

* Industry Division, Bureau of the Census.

. . . B. B. Boggs, Jr., appointed vice president and general manager, Northern Freight Lines, Atlanta, Ga.

. . . Gordon Hall, Safety Convoy Co., elected chairman, Automobile Transporters Conference, American Trucking Assns., Washington, D. C.

. . . George W. Keown, promoted to vice president, sales, Tung-Sol Electric, Inc., Newark, N. J.

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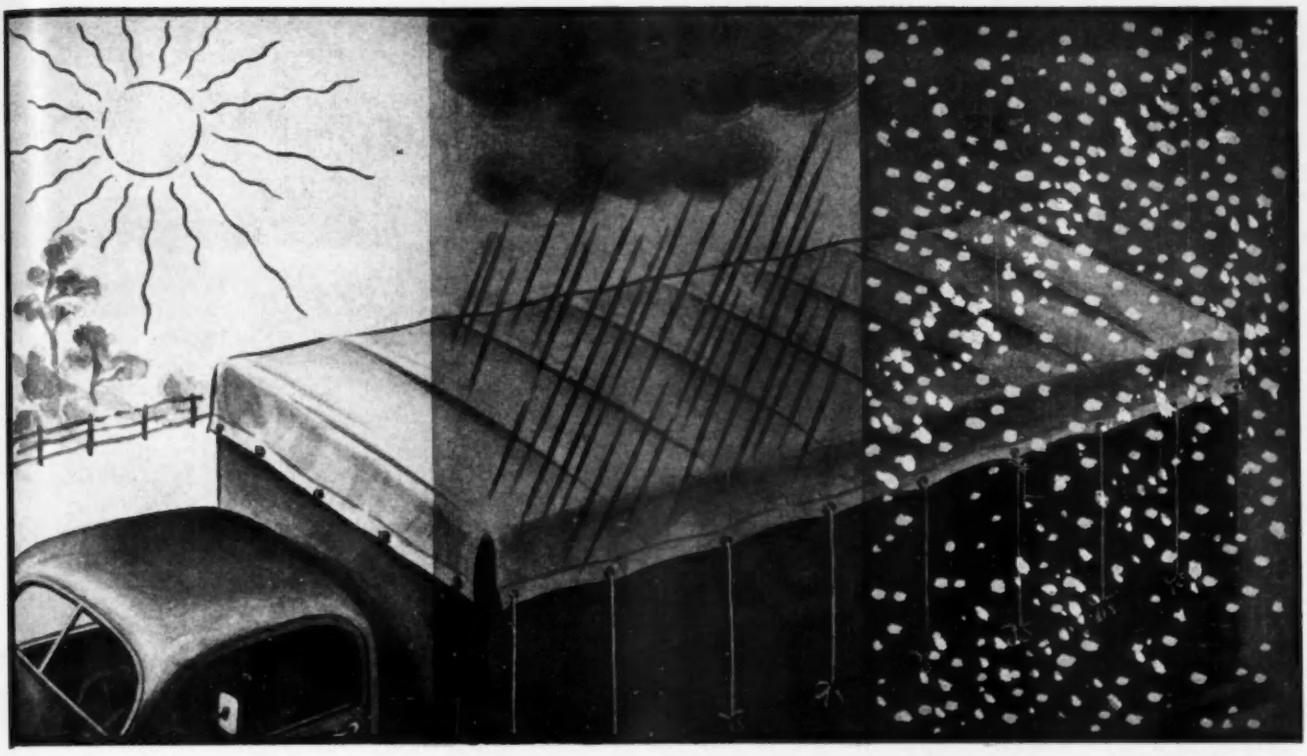

Protective covers of coated SUPERLITE* Nylon Fabric, are immune to weather, cut operating and repair costs

Covers made of coated Superlite have more than double the life expectancy over ordinary tarpaulins or protective covers, and cut labor handlings at least one-third. A standard 32-foot trailer, using coated Superlite, saves $78 per year (average).

Motor boating

For boat covers, hatch covers, spray shields, deck covers, sail bags, and many other specialized uses in the marine industry.

Athletic fields

Waterproof, mildew and rot resistant, light in weight, tarpaulins of coated Superlite will cut operating costs, protect athletic fields better.

Agriculture

For water tank liners, silo covers, ground silage, tents, implement covers, fumigation tents, produce canopies, hay covers, storage covers, etc.

FEATURES OF COATED SUPERLITE

Light weight. Superlite weighs only one-third to one-half as much as conventional protective covers.

High Strength. Superlite has 3 times the tear strength of ordinary tarpaulins or protective covers.

Permanently Waterproof, not merely water-repellent. Permanently resists deterioration by mildew, bacterial action, unaffected by gasoline, oil, etc., easily cleaned.

Does not stiffen in cold weather, handles easily in all extremes of temperature.

Ease of Repair. Can be repaired on the road—on the job—in the shop—with repair kits it is as simple to repair as a puncture or tear on a tire innertube. No chance of cargo damage.

Geared to the needs of Industry

SUPERLITE

SUPERLITE II—2½ oz. Nylon • SUPERLITE V—5 oz. Nylon

AMEROTRON CORPORATION

INDUSTRIAL SALES DIVISION • A TEXTRON AMERICAN COMPANY

Only coaters of established reputation, who meet the most rigid quality-control processing specifications, sell Superlite coated products. Look for these seals.

ACMETEX SUPERLITE	HYLO-TARP SUPERLITE	TUFF-TARP SUPERLITE
Acme Backing Corporation St. Louis, Mo. & Stamford, Conn.	Haartz-Mason, Inc. Watertown, Mass.	The H. M. Sawyer & Son Co. Watertown, Mass.

Industrial Sales Division, Amerotron Corporation
Dept. CC-2, 1407 Broadway, New York 18, N. Y.

Gentlemen: Send me free illustrated booklet explaining cost saving, labor saving, time saving, protective covers of coated SUPERLITE Nylon Fabric.

Name_____

Firm Name_____

Address_____

City_____ State_____

*Registration pending

December News Roundup

Continued from Page 136

...**Lee Lumpkin,** appointed general sales manager, Barrett Equipment Co., St. Louis, Mo.

...**Donald R. Spotz,** appointed general sales manager, Pesco Products Division, Borg-Warner Corp., Bedford, Ohio. He was sales manager, Accessories Division, Thompson Products, Inc.

...**John J. Kaul,** promoted to sales manager, Terado Co., St. Paul, Minn.

...**Charles F. Euler,** promoted to Boston, Mass., district manager, Permacel Tape Corp., New Brunswick, N. J.

...**W. Raymond Myers,** promoted to assistant sales manager, metal products division, Goodyear Tire & Rubber Co., Akron, Ohio.

1 man + Bonney X-4 = 4 men

Revolutionary! Labor Saving!

It's the new BONNEY "X-4"— the amazing, muscle-saving 4-to-1 Geared-Head Wrench! Now, 1 man can do the job of 4 in all heavy assembly and disassembly work! In tightening or loosening threaded parts, there is no dangerous snap or jarring action. The Bonney X-4 *makes tough jobs easy!*

The new BONNEY "X-4" is designed as an *intermediate unit* for use with ratchets, torque wrenches, sockets, and attachments. Rugged, lightweight, portable—the unit is easily used in shop or field. A mechanic can do his own work with less effort, greater safety, with no chance of damaging equipment.

Get the complete story!

BONNEY TOOLS

BONNEY FORGE & TOOL WORKS
Allentown 5, Pennsylvania

Please send me detailed information on the new BONNEY "X-4" 4-to-1 Geared-Head Wrench.

Name_____

Company_____

Address_____

City_____ Zone_____ State_____

...**Lewis T. Gerlach,** left, promoted to general sales manager, distributor sales, and **Robert J. Hutchinson,** right, promoted to sales manager, off-highway equipment, Kenworth Motor Truck Corp., Seattle, Wash.

...**John E. Mott,** promoted to general service manager, automotive and machine tool divisions, Van Norman Co., Springfield, Mass.

...**H. L. McNulty and Wallace Hallam,** promoted to division managers in the central and Atlantic Divisions respectively, Mack Trucks, Inc., New York City.

...**E. P. Letscher,** promoted to sales manager, field operations, car and truck, Dodge Division, Chrysler Corp., Detroit.

...**Walter G. Larsen,** promoted to director of purchases, Consolidated Freightways, Portland, Ore.

...**John S. Harbison, Jr.,** promoted to manager, replacement sales, Willard Storage Battery Co., Cleveland, Ohio.

...**W. M. Champion,** promoted to Shreveport, La., district manager, Air Reduction Sales Co., New York City.

...**M. N. Hardesty,** appointed managing director, Interstate Commerce Commission, Washington, D. C.

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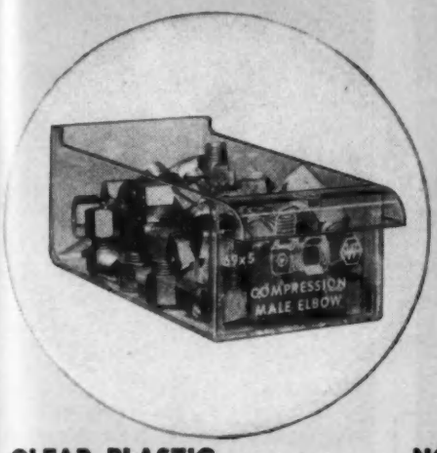


CLEAR PLASTIC

Provides at-a-glance inventory. Instant visual identification. Convenient, easy-pull handles. Safety drawer stop.

NO RELABELING

Plastic, slide-in labels for easy, instant identification. Permanently readable, easily cleaned, no relabeling necessary.

IDENTIFICATION PANELS

Side panel gauges provide ready means for instant physical size identification of parts. Loose or mixed parts quickly sorted for proper drawer.

Go Weatherhead

WITH THE

F-1 MERCHANDISER

Years Ahead In Modern Design
. . . In Time-Saving Features!

World's largest original equipment manufacturer of automotive brass tube fittings, drain and shut-off cocks, fuel and oil lines, brake hose, power steering hose, dash controls.

192 DRAWERS

Use 161 drawers for initial Weatherhead fast-moving parts . . . 31 extra drawers for additional parts. Note sloping front for easy visibility of all drawers.

WEATHERHEAD

THE WEATHERHEAD CO., FORT WAYNE DIVISION, DEPT. C-12, 128 WEST WASHINGTON, FORT WAYNE, INDIANA

December News Roundup

Continued from Page 138

. . . **Lloyd C. Edwards** (St. Louis, Mo.) and **James R. Riales** (Memphis, Tenn.), appointed division safety inspectors, Campbell Sixty-Six Express, Springfield, Mo.

. . . **Joseph Q. Benjamin,** promoted to assistant to equipment sales manager, and **Donald A. Maize,** promoted to assistant Detroit regional manager, AC Spark Plug Division, General Motors Corp., Flint, Mich.

. . . **Miles Powell,** appointed vice president and sales manager, Spray Starting Fluid Co., Camden, N. J.

. . . **George W. Wilkins,** promoted to southwestern regional manager, Reo Motors, Inc., Lansing, Mich.

. . . **T. Coleman Andrews,** elected chairman of the board, American Fidelity & Casualty Co., Richmond, Va. He was Collector of Internal Revenue.

. . . **Fred J. Grumme,** left, promoted to executive vice president, and **Charles W. Hulett,** right, promoted to manager of operations, Aero Mayflower Transit Co., Indianapolis, Ind.

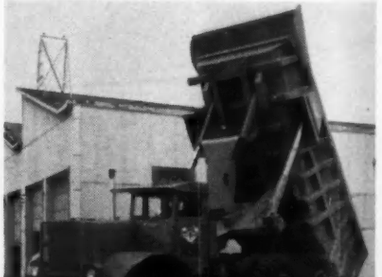
. . . **Clement F. Halleron,** appointed field representative, New Jersey Motor Truck Assn., Newark, N. J.

. . . **John E. Chambers, W. L. Henry** and **Charles S. Hale,** promoted to branch managers in Kansas City, Mo., Los Angeles, Cal., and Philadelphia respectively, The White Motor Co., Cleveland, Ohio.

. . . **H. E. Schaibly,** vice president-treasurer of Interstate Motor Freight System, elected president, National Accounting and Finance Council, American Trucking Assns., Washington, D. C.

(TURN TO PAGE 146, PLEASE)

Kenworth's 32-yd. Dump



Kenworth Motor Truck Corp. announces its new earthmover truck-tractor, with dump semi-trailer, called the 802-B. The first six units built have been delivered to the Isbell Construction Co. fleet for use in hauling copper ore from mine to mill on a project in southern Arizona. With a capacity of 32 cu yd (struck), the vehicle's GCW is 165,000 lb. The 802-B is powered by a 300-hp turbo-charged Cummins NRT-600 diesel engine. In dumping, the entire trailer raises, and the rear trailer wheels move forward to a position directly behind the tractor tires. The fifth wheel is equipped with a ball and socket which provides complete flexibility in the dumping operation. A special guide and equalizer stabilizes the body when dumping, so that there is no strain or twist on the twin, three-stage Kenworth telescopic hoist.

TUNG-SOL®
UNIVERSAL
SIGNAL FLASHERS

Just about nine out of every ten service jobs that necessitate replacement of the signal flasher can be handled with this one Tung-Sol Universal Flasher. The special mounting bracket takes the place of ten screw-terminal and attached-bracket types of mounts—seven in passenger cars and trucks with 6 volt circuits and three in 12 volt trucks and busses. In addition, both the 6 and the 12 volt Universal Flasher can be stripped down to replace the respective plug-in types. Universal Flashers P229D (6 volt) and P241D (12 volt) are supplied with mounting brackets and special wiring connector screws and nuts. Order from your regular supplier.

For 85% of all Signal Flasher Replacements

TUNG-SOL ELECTRIC INC.
Newark 4, N.J.

Sales Offices: Atlanta, Chicago, Culver City (Los Angeles), Dallas, Denver, Detroit, Montreal (Canada), Newark, Philadelphia, Seattle.

Easily installed to operate off truck engine, the rugged G-E alternator produces 90-volt power for en-route cooling.

More room for payload results from the compactness of encased system electrical components and refrigeration equipment.

Convenient plug-in to adequately fused a-c outlet provides power for uninterrupted cooling during stand-by hours.

New all-electric truck refrigeration powered by General Electric cools round-the-clock, cuts over-all costs

IN-TRANSIT AND STAND-BY COOLING COMBINED IN ONE COMPACT, DEPENDABLE SYSTEM

Today the convenient, dependable, low-cost way to refrigerate your trucks is with new **all-electric** refrigeration powered by General Electric. Truck-refrigeration manufacturers now offer complete equipment designed around G-E electrical systems. There are units for local retail and wholesale trucks and over-the-road semi-trailers, for either cooling or freezing temperatures.

24-HOUR OPERATION

All-electric truck refrigeration powered by G.E. is 24-hour refrigeration. In-transit power is provided by a special under-the-hood G-E generator with capacity for full cooling even when the truck engine is idling. During off hours, the system operates by plug-in to a conventional a-c electric outlet.

MANY COST-CUTTING BENEFITS

All-electric truck refrigeration offers many benefits over other cooling methods —including constant temperatures, longer runs, bigger pay loads, and elimination of truck-body rust. And many types of products can now be successfully refrigerated for the first time with this new system.

SEE YOUR SUPPLIER TODAY!

If you operate trucks which require or could benefit from economical refrigeration, it will pay you to discuss new **all-electric** truck refrigeration with your equipment supplier before you commit another dollar of equipment investment.

Progress Is Our Most Important Product

GENERAL ELECTRIC

FOR MORE INFORMATION

General Electric Company,
Section F-704-60, Schenectady, N. Y.

Please send me your new Bulletin GEA-6084A describing the G-E electrical system for all-electric truck refrigeration.

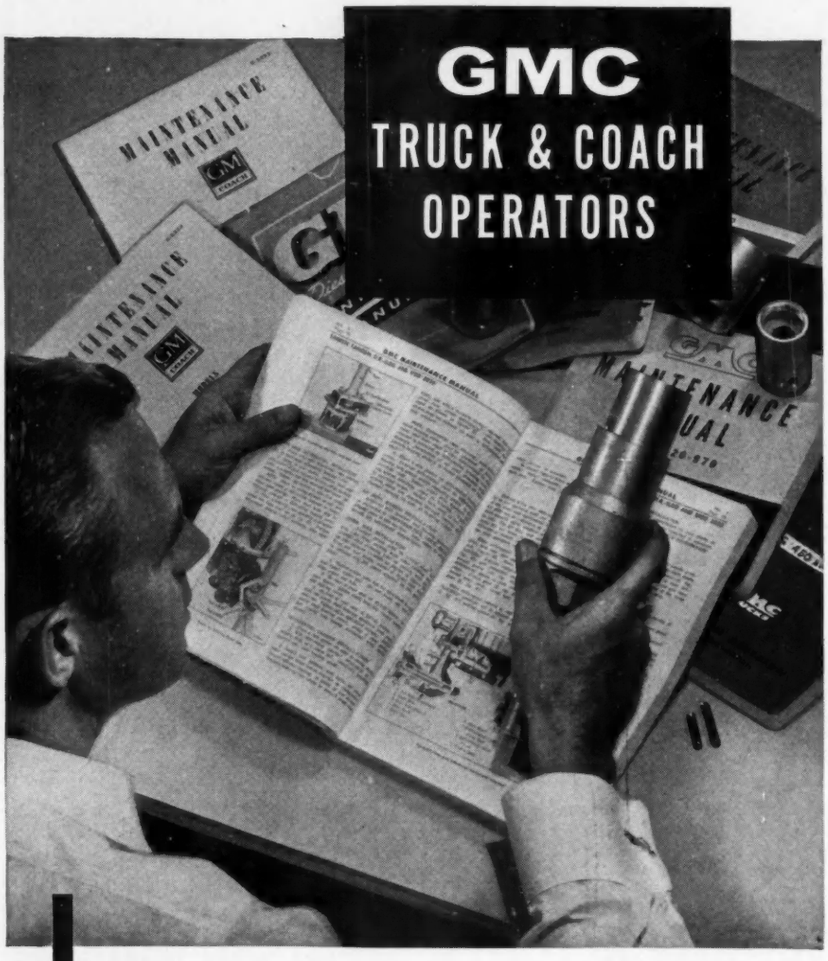
NAME.....

TITLE.....

COMPANY.....

STREET.....

CITY.....STATE.....

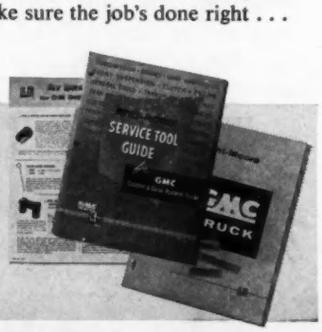


YOUR MAINTENANCE MANUALS SHOW WHY YOU NEED
KENT-MOORE *RATE-MAKER*
SPECIAL SERVICE TOOLS!

Next time you refer to your GMC Maintenance Manual, notice how often it specifies the use of a "J-number" tool . . . like the J 4863 shown above, for example, which is used in servicing heavy duty axles.

That "J", you know, is the prefix used to designate Kent-Moore "Rate-Maker" Special Service Tools. And there are many good reasons why their use is recommended. For you see, Kent-Moore Tools are developed in cooperation with your vehicle manufacturer to perform many important maintenance operations for which no adequate standard tools exist. They save time, prevent parts damage, improve service efficiency, And, combined, they give you the means of duplicating factory-assembled conditions in the field. So whether you service your own GMC's or have them serviced by others, make sure the job's done right . . . with Kent-Moore Special Service Tools!

UPON REQUEST—Complete information on the entire line of Kent-Moore "Rate-Maker" Special Tools for servicing GMC Trucks & Coaches according to factory-recommended procedures. There's no cost, no obligation . . . so send for it today!



KM **KENT-MOORE ORGANIZATION, INC.**
5-105 General Motors Building • Detroit 2, Michigan
Engineers and Manufacturers of Special Automotive Service Tools and Equipment

December News Roundup

Continued from Page 142

. . . **J. E. Morrison,** promoted to Pacific region sales manager, Exide Automotive Division, Electric Storage Battery Co., Philadelphia.

. . . **H. F. Huff,** promoted to director of personnel and training, Consolidated Freightways, Portland, Ore.

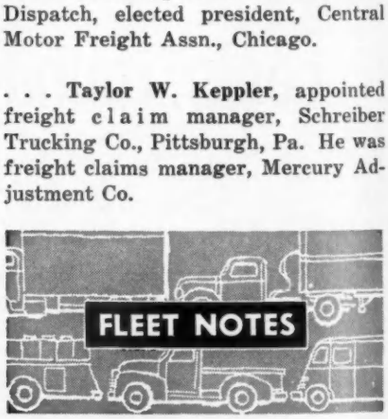
. . . **Neale Carter,** appointed to the Birmingham, Ala., district sales office, Allegheny Ludlum Steel Corp., Pittsburgh, Pa. He was with United States Pipe and Foundry Co.

. . . **Rufus T. Holladay,** named regional sales manager for seven southeastern states (Nashville, Tenn.), and **Jean R. Anderson,** named district sales manager for Tennessee and northern Alabama, Permatex Co., Brooklyn, N. Y.

. . . **L. K. Faust,** promoted to assistant general supervisor, motor truck service section, motor truck division, International Harvester Co., Chicago.

. . . **M. E. Holt,** president of Interstate Dispatch, elected president, Central Motor Freight Assn., Chicago.

. . . **Taylor W. Keppler,** appointed freight claim manager, Schreiber Trucking Co., Pittsburgh, Pa. He was freight claims manager, Mercury Adjustment Co.



Navajo Freight Lines, Denver, Colo., has ICC Division 4 approval to purchase **F&S Transit Co.,** South Bend, Ind.

Chippewa Motor Freight will move its main offices from Bloomer, Wis., to Eau Claire, Wis., in December.

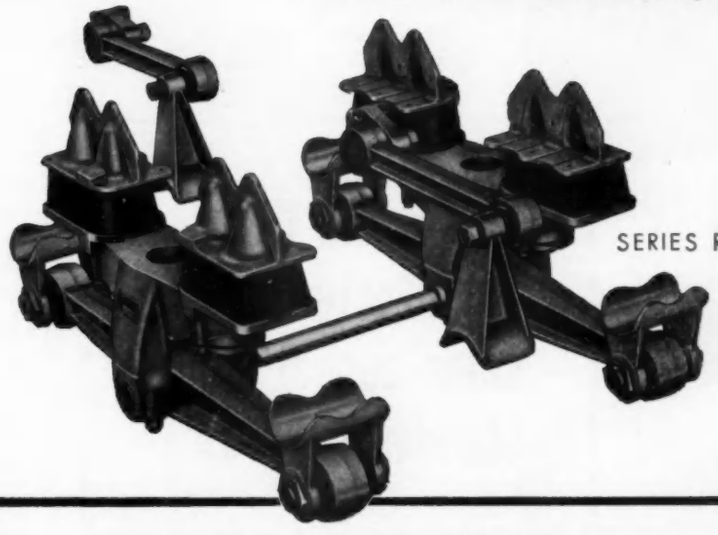
Continental Transportation Lines, Pittsburgh, Pa., was featured in a 10-page Sunday rotogravure supplement with full-color cover in the "Pittsburgh Press" when the fleet opened its new McKees Rocks, Pa., terminal.

Hayes Freight Lines, Springfield, Ill., has purchased 100 new high volume, Series 4000 Fruehauf trailers.

(TURN TO PAGE 148, PLEASE)

HENDRICKSON TANDEM

THE FULL RUBBER TANDEM SUSPENSION FOR TRUCKS, TRAILERS AND SPECIAL EQUIPMENT



SERIES RS TANDEM

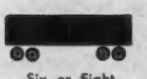
Double Drive Six Wheel Truck

Trailing Axle Six Wheel Truck

Double Drive Six Wheel Tractor

Trailing Axle Six Wheel Tractor "Pusher Type"

Tandem Axle Semi-Trailer



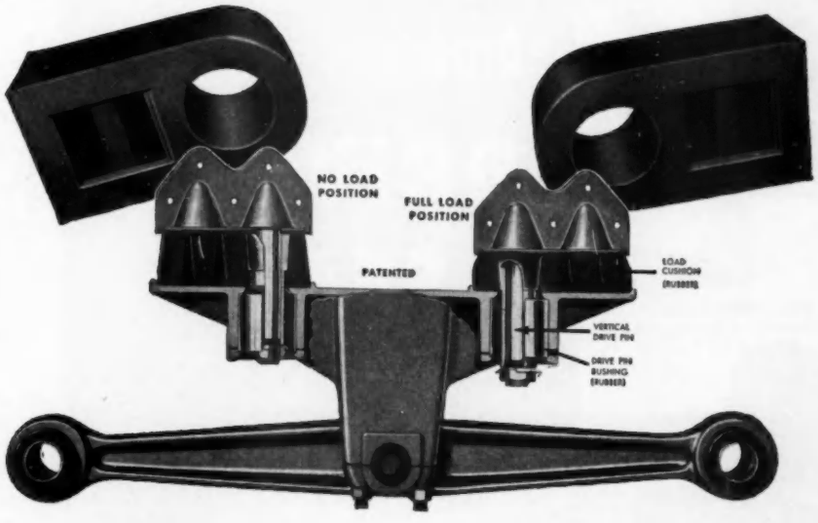
Six or Eight Wheel Full Trailer

Portable Special Machinery

Six Wheel Crane Carrier

Eight Wheeler

FEATURING THE HENDRICKSON LOAD CUSHION



NOTE! Empty, the unit rides on the outer edges of the "load cushion"; as the load increases, the cross bars are progressively brought into contact to absorb the additional load.

THE RUBBER "LOAD CUSHION" is an innovation in tandem suspension—the rubber replaces the steel leaf spring and is designed to give the ultimate in a soft, easy ride during the entire range from empty to full load.

HENDRICKSON Mfg. Co.

HENDRICKSON MFG. CO. • 8001 W. 47th St. • LYONS (Chicago suburb) ILL.

December News Roundup

Continued from Page 146

Mollerup Van Lines, Salt Lake City, Utah, has ICC Division 4 OK to purchase **Yelloway Van Lines,** Salt Lake City.

Coastal Tank Lines, York, Pa., through its Charleston, W. Va., terminal, recently furnished without charge for a two-week period two tank combinations to haul water to Ansted, W. Va., when the town's water supply was cut off.

E. N. Curtis Transportation, Danielson, Conn., has ICC Division 4 approval to purchase certain of the operating rights of **Runard's Motor Express,** West Haven, Conn. At the same time, Runard's obtained approval to purchase all operating rights of **Federal Motor Lines,** North Haven, Conn.

Nationwide Freight Systems has been joined by **Garrett Freightlines,** Pocatello, Idaho. Garrett joins **Merchant's Motor Freight,** St. Paul, Minn.; **Western Express,** Cleveland, Ohio; **Shirk's Motor Freight,** Lancaster, Pa.; and **United Truck Lines,** Spokane, Wash., in the system. Nationwide plans to establish offices at 50 South Redwood Rd., Salt Lake City, Utah.

National Trailer Pool, Minneapolis, Minn., has placed an order for $2½ million worth of high cube trailers. They will go in service in National's on-call pools in St. Paul, Minn.; Minneapolis, Minn.; Chicago, Des Moines, Iowa; St. Louis, Mo.; Kansas City, Mo.; Denver, Colo.; Indianapolis, Ind.; and Omaha, Neb.

Silver Fleet Motor Express, Louisville, Ky., celebrated its 25th anniversary last month. It operates over 5000 miles of certified routes, has 500 employees and over 600 pieces of equipment.

Norwalk Truck Line, Norwalk, Ohio, has equipped 60 PU&D trucks in its Cleveland, Ohio, terminal with two-way radio. In Chicago 60 and in Detroit 65 PU&D trucks have been using two-way radio for over a year.

Jack Cole Co., Birmingham, Ala., has placed orders for 45 GMC tractors with sleeper cabs and 200 high volume Trailmobile trailers.

Tucker Freight Lines, South Bend, Ind., has ICC Division 4 OK to purchase **Brodbeck Trucking Co.,** South Bend.

Watson Bros. Transportation Co., Omaha, Neb., is in "substantial" compliance with ICC safety regulations, said the Interstate Commerce Commission, last month. The ICC discontinued an investigation of the fleet began December, 1953.

Spector Freight System, Chicago, has ICC approval to manage **Schumacher Motor Express,** Eau Claire, Wis.

Adley Express, New Haven, Conn., announces that it has ICC OK to purchase **Savage Truck Line,** Norfolk, Va.

Eastern Motor Express, Terre Haute, Ind., opened its new terminal in the Buncher Industrial District, Pittsburgh, Pa., early last month. It includes a service shop for the terminal's PU&D fleet and for minor repair work on over-the-road units.

Watson Bros. Transportation, Omaha, Nebr., announces a new nonstop, through-trailer service in con-

(TURN TO PAGE 150, PLEASE)

Model 287 Driver's Seat

Truck and Bus Manufacturers add sales appeal by standardizing on

Model 230 Driver's Seat

American Seating DRIVER'S SEATS

Special Model 230 Driver's Seat with arms

No. 0-4418 Light Delivery Tilt-Away Truck Seat

Write for our latest illustrated catalog!

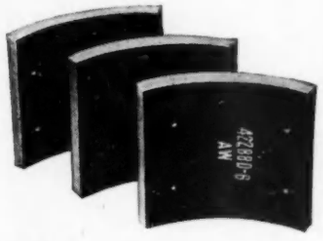
American Seating Company

WORLD'S LEADER IN PUBLIC SEATING

Grand Rapids 2, Michigan • Branch Offices and Distributors in Principal Cities

Manufacturers of Transportation, School, Theatre, Auditorium, Church, Stadium Seating, and FOLDING CHAIRS

7 WAYS TO DECREASE DOWN-TIME . . .



THERMOID BRAKE BLOCKS

are engineered to meet the most rigid stopping tests, while providing maximum mileage, regardless of heat or operating conditions.

NEOPRENE-NYLON AIR BRAKE DIAPHRAGM

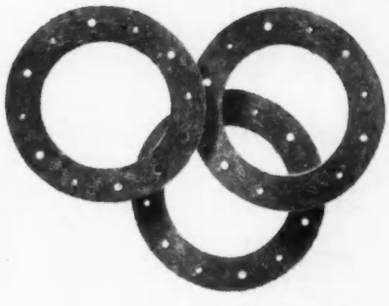
provides maximum protection against oil, abrasion, heat . . . stands up under flexing . . . resists "ballooning". Gives you more revenue miles between overhauls.

BT NEOPRENE RADIATOR HOSE

withstands 100° higher outside temperatures than ordinary hose . . . provides 4 times greater resistance to oil, grease and gas fumes.

HEAVY DUTY BRAKE LININGS

compounded under Thermoid's exclusive Dry Mix Process, have a *density* that makes them wear longer in the most severe service.



CLUTCH FACINGS

manufactured to the same industry-leading standards as Thermoid Brake Blocks and Heavy Duty Linings, provide smooth, positive engagement.

HEAVY DUTY HYDRAULIC BRAKE FLUID AND PARTS

withstand the toughest conditions. Thermoid HD Fluid meets or exceeds all SAE requirements. Brake Parts and cylinder assemblies are precision engineered for complete dependability and long life.

FAN BELTS WITH NEOPRENE COVERS

resist high under-hood temperatures, abrasive road dirt, oil and grease. *Prestretching* prevents sagging and premature wear.

Test these Thermoid products on the toughest job in your fleet!

Thermoid

Thermoid Company • Trenton, New Jersey

Brake Linings • Fan Belts • Radiator Hose • Hydraulic Brake Parts and Fluid • Car Mats • Clutch Facings • Thermoid Precision Process Equipment.

December News Roundup

Continued from Page 148

junction with **United Freight System** to provide eastern and mid-western shippers with service to Pacific northwest points.

Geo. F. Alger Co., Detroit, moved into its new Grand Rapids, Mich., terminal early last month.

Transcon Lines, Los Angeles, Cal., reports it has ICC Division 4 approval to issue $440 thousand of secured promissary notes to finance about 80 per cent of the cost of 60 new light weight Strick semi-trailers.

Texas-Arizona Motor Freight Lines. El Paso, Texas, announces addition of 30 Kenworth tractors to its fleet for use with 35-ft trailers in El Paso-Los Angeles, Cal., service.

E. Brooke Matlack, Inc., Philadelphia, has ordered 103 aluminum, tandem-axle, tank semi-trailers and seven steel, tank semi-trailers from Butler Mfg. Co.

F. J. Boutell Driveaway, Flint, Mich., reports that 29 of its drivers received Red Cross certificates for first aid training. Instructors of the group were four other Boutell drivers who earned Red Cross certificates as first aid instructors.

Don't wait any longer
—let HaDees
put HEAT in your FLEET
Get the facts now on specially designed units or easy-to-install standard models for MORE heat at LESS cost.
FOR EXAMPLE:
Model H-555, designed for easy installation, guarantees maximum volume of heat to beat the most intense winter weather. Equally recommended for passenger car or truck heating.
Ha Dees
Model H-901 adaptable for small school type bus and truck cabs as well as an auxiliary unit for large cross country bus service. Used for under seat or dash installation. Equipped with HaDees high temperature core and heavy duty twin motors.
WRITE FOR DETAILS ABOUT THE
Hottest Heater Deal
HADEES HEATERS
HaDees Heater Division of the Gabriel Company, Rockford, Illinois

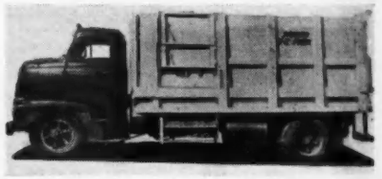
First place winners in the National Fleet Safety Contest sponsored by the National Safety Council in addition to those announced in the November issue, page 312, included:

Intercity truck—government: Ouachito National Forest, U. S. Forest Service, Hot Springs, Ark.

City truck—common carrier: Group 1—Western Express, North Great

(TURN TO PAGE 152, PLEASE)

Hercules Galion Packer Body



Production of a new "Hydro E-Z Pack" hydraulic packer-type refuse collection body is announced by the Hydro E-Z Pack Division, Hercules Galion Products, Inc., Galion, Ohio. Use of the new body is said to improve refuse collection service and cut costs because of its ability to take chairs, beds, tree limbs, washing machines and other bulky items. According to the manufacturer, the "Hydro E-Z Pack" is capable of producing packing pressures up to 82,500 lb. The new body consists of a braced outer shell and a curved box frame-reinforced sliding platen powered by a double-acting multi-sleeve hydraulic cylinder. A pump, driven by the truck engine through a power take-off, provides hydraulic pressure. A manually-operated four-way valve controls platen movement. Available in body lengths of 11, 14 and 16 ft. with refuse capacities from 12 to 20 cu yd the bodies are reputed to be suitable for mounting on 1½ or 2-ton trucks with standard wheelbases and CA's. The Hydro E-Z Pack pushes its load out through a full-opening rear tailgate. Full opening side doors and sliding top doors permit top loading from second story porches and fire escapes. They also allow loading of bulky articles even when the body is almost full. For further details, circle P 33 on the postcard on page 84.

VICTOR

GASKETS • OIL SEALS • PACKINGS

Fast service on gaskets swells my profits —thanks to my Victor jobber

There's no profit in upset work schedules and delays on jobs waiting for sealing parts. There's where the Victor jobber never lets you down.

His gasket line leads the field for completeness—for cars, trucks, tractors and stationary engines. He always comes through with the numbers you need, whether packaged sets or individual parts.

Victor replacement gaskets are Original Equipment Quality. They're carefully made to factory specifications or better—never less. They fit right... seal tight... are the best to be had with no extra cost.

On oil seals as on gaskets, your Victor jobber's service is tops. His catalogs—the Victor Gasket and Oil Seal Guides—are famous for complete, accurate listings. His stocks are kept fresh, in balance with your needs. He's the man to help you save profits.

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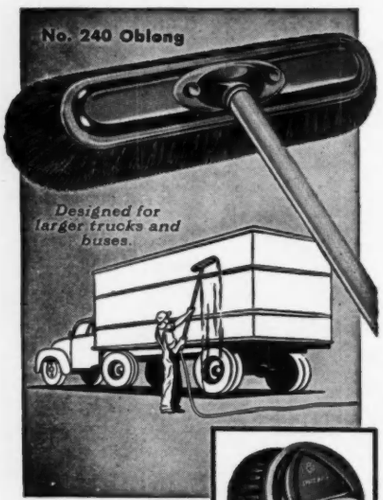
VICTOR

Sealing Products *Exclusively*

The 100% Complete Line . . . Sold Through Leading Jobbers Everywhere

SPEED WASH Outlasts 3 Ordinary Fountain Brushes



No. 250 Round
Ideal for small trucks, passenger cars.

NOT even three ordinary fountain brushes can match the long lasting performance that results from the superior construction and design of Speed Wash. Soft, resilient bristles (50% Nylon, 50% Select Horsehair) can't mat or tangle. Tufts are molded into block, can not come out or come loose. Steel back is waterproof and surrounded by a mar-proof bumper. Handle is zinc plated inside and out. Features like these make Speed Wash the quality brush of the trucking industry, preferred by thousands of the nation's biggest fleet operators. You'll like Speed Wash, too. Order yours today.

PRICES EITHER STYLE

Complete with 5 ft. handle	IN LOTS OF: 1	6	12	24
	$12.45	$11.65	$10.90	$10.15

MILWAUKEE DUSTLESS BRUSH CO.
530 North 22nd St., Milwaukee, Wis.

Please ship the following:

Quan.	No.	Item	Price
	240	OBLONG SPEEDWASH	
	250	ROUND SPEEDWASH	

NAME_____

ADDRESS_____

CITY_____ STATE_____

December News Roundup

Continued from Page 150

Falls, Mont.; Group 2—Fred Scherer, Ottawa, Ill. **City truck — contract carrier:** United Parcel Service (Newton Station fleet), Philadelphia. **City truck—private carrier:** Group 1—Kingston Trap Rock Co., Kingston, N. J.; Group 2—Bendix Products Division, Bendix Aviation Corp., South Bend, Ind. **City truck—petroleum:** Group 1—Socony Mobil Oil Co., Philadelphia division; Group 2—Shell Oil Co., Sacramento, Cal., division. **City truck—government:** Group 1—Corp. of Engineers, U. S. Army, North Atlantic Division; Group 2 — Union County Park Commission, Elizabeth, N. J.

Bakeries: Group 1 — Continental Baking Co., Ogden, Utah; Group 2—Weber Baking Co., Santa Barbara, Cal. **Beverages:** Joseph E. Seagram & Sons, Lawrenceburg, Ind. **Coal and ice:** Crystal Ice & Cold Storage Co., Phoenix, Ariz. **Ice cream and dairy products:** Group 1 — Land O'Lakes Creameries, Consumer fleet; Group 2 —Southern Dairies, Knoxville, Tenn. **Meat packing:** Kingan, Inc., Indianapolis, Ind.

Petroleum companies: Production—Cabot Shops, Pampa, Texas; Pipeline —Pipe Line Dept., Pan-Am Southern Corp., El Dorado, Ark.; Refining — Shell Chemical Corp., Houston, Texas. **Public utilities:** Group 1—Community Public Service, Fort Worth, Texas; Group 2—Southwestern Public Service Co. (system construction fleet).

Gas industry: Gas utility, very large group—Hope Natural Gas Co., Clarksburg, W. Va.; Gas utility, large group — Pioneer Natural Gas Co., Amarillo, Texas; Gas utility, medium group—Wisconsin Power & Light, Madison, Wis.; Gas utility, small group—Concord Natural Gas Corp., Concord, N. H.; Gas transmission—Alabama-Tennessee Natural Gas Co.

Fluid milk: Class A, Group 1 — Sheffield Farms Co., New York City; Class A, Group 2—Southern Diaries, Asheville, N. C.; Class B—Cloverland Diary Products Corp., New Orleans, La.; Class C—Durham Dairy Products, Durham, N. C.

Auto transporter — truckaway: Group 1—Dealers Transport Co., Kansas City, Mo.; Group 2—Dependable Auto Transport, Seattle, Wash. **Auto transporter — Driveaway:** Group 1 — Auto Convoy Co., Dallas, Texas;

(TURN TO PAGE 154, PLEASE)

a new 3-step system of cleaning and protecting

ALUMINUM BODIES

1. Faster Cleaning...
Magnus 81 XX a concentrated cleaner for initial cleaning to bring back original luster.

2. Longer Protection...
Magnus FF 111 Water-White Clear Coating prevents oxidation and pitting.

3. Easier Maintenance...
Magnus NZL a safe liquid cleaner for keeping aluminum bodies sparkling clean.

Send for a complete kit containing operational instruction folder.

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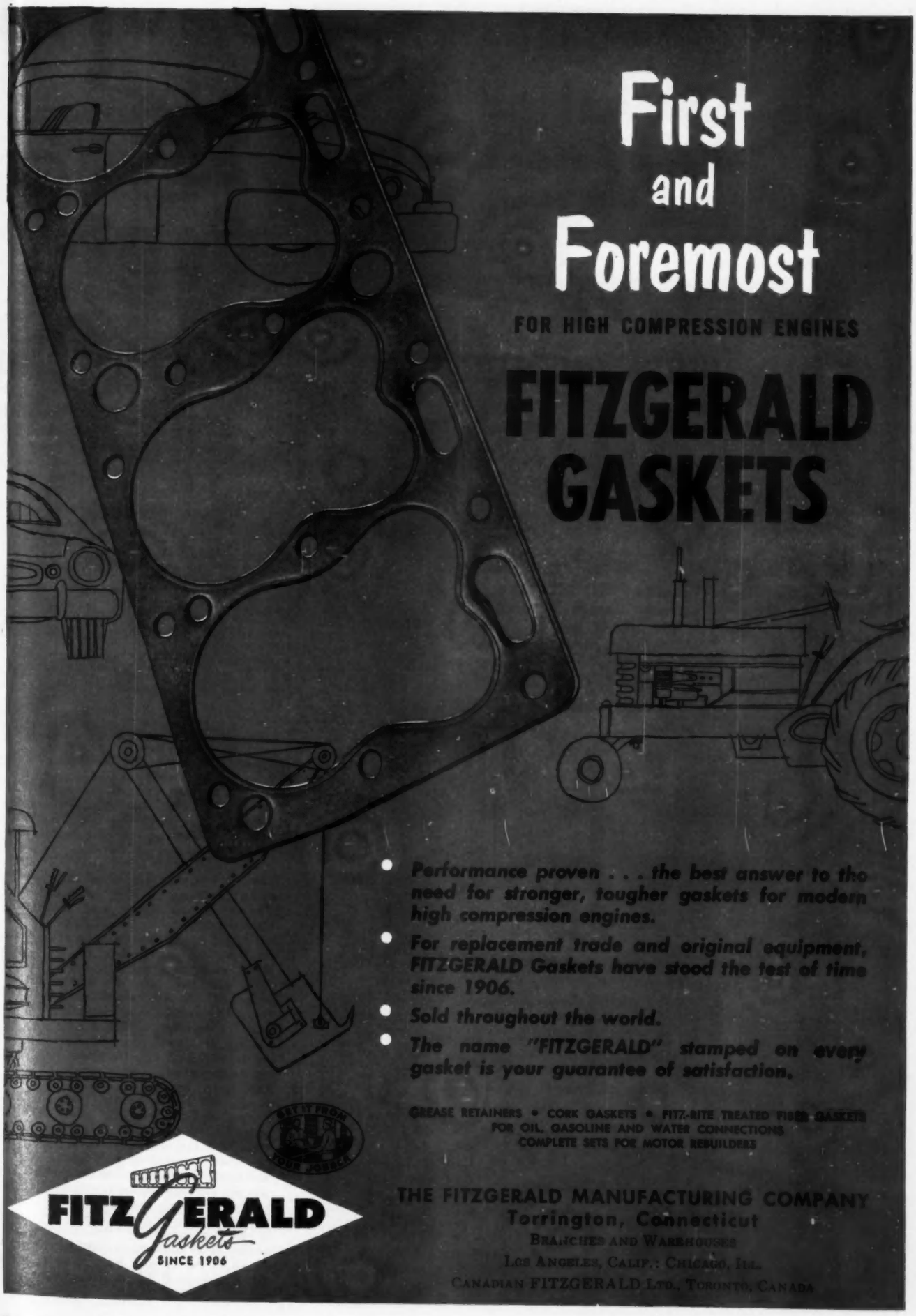
MAGNUS CHEMICAL CO., INC.
Automotive Division
38 South Ave. Garwood, New Jersey



First
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Foremost

FOR HIGH COMPRESSION ENGINES

FITZGERALD
GASKETS

- *Performance proven . . . the best answer to the need for stronger, tougher gaskets for modern high compression engines.*
- *For replacement trade and original equipment, FITZGERALD Gaskets have stood the test of time since 1906.*
- *Sold throughout the world.*
- *The name "FITZGERALD" stamped on every gasket is your guarantee of satisfaction.*

GREASE RETAINERS • CORK GASKETS • FITZ-RITE TREATED FIBER GASKETS
FOR OIL, GASOLINE AND WATER CONNECTIONS
COMPLETE SETS FOR MOTOR REBUILDERS

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THE FITZGERALD MANUFACTURING COMPANY
Torrington, Connecticut
BRANCHES AND WAREHOUSES
LOS ANGELES, CALIF.: CHICAGO, ILL.
CANADIAN FITZGERALD LTD., TORONTO, CANADA

December News Roundup

Continued from Page 152

Group 2—Hulbert Fwd. Co., Buffalo, N. Y.

Intercity bus: Phillips Petroleum Co., Idaho Falls, Idaho. **City bus:** Group 1—City of Phoenix, Phoenix, Ariz.; Group 2 — Charlottesville & Albermarle Bus Co., Charlottesville, Va.

Passenger car—eastern: Group 1—Socony Mobil Oil Co. (Wadhams division fleet), Milwaukee, Wis.; Group 2—U. S. Forest Service Headquarters, Region 8, Atlanta, Ga.; Group 3 — Shell Oil Co., Sewaren plant fleet. **Passenger car—western:** Group 1—Gulf Oil Corp., Fort Worth, Texas, production division; Group 2—General Foods Sales Div., Oklahoma City, Okla.; Group 3 — Southwest Ice & Dairy Products. Oklahoma City, Okla.

Small fleets—passenger car: General Services Administration, Region 10, Seattle, Wash. **Small fleets—commercial, intercity:** Borden Food Products, Mid-west Division, Madison, Wis. **Small fleets — city:** Wagner Baking Corp., Pleasantville, N. J.

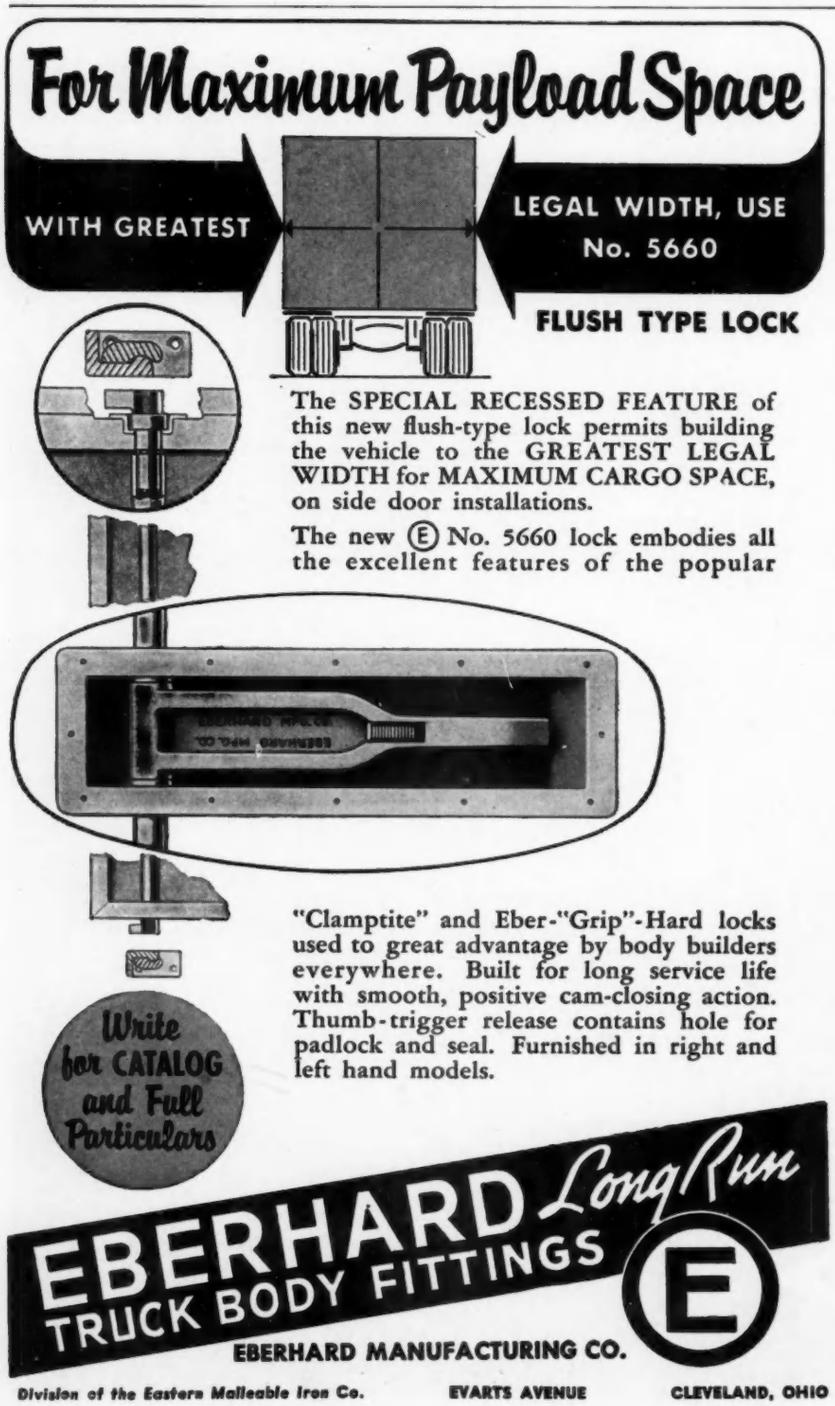
Fleets awarding their outstanding, safe truck drivers recently include:

Trexler Farms, Allentown, Pa.— to 43 drivers. Fifteen of the drivers have records of 5 years or more of safe truck driving.

Holland Motor Express, Holland, Mich.—to 23 drivers. Total record of the group, awarded at a recent safety dinner in Muskegon Heights, is 87 years of safe driving.

Los Angeles-Seattle Motor Express, Seattle, Wash.—to 178 drivers at a series of 10 safety dinners. Thirty-nine have records of 5 years or better. Total record of the group represents 594 years, about 23 million miles of accident-free driving.

(TURN TO PAGE 159, PLEASE)


For Maximum Payload Space
WITH GREATEST
LEGAL WIDTH, USE
No. 5660
FLUSH TYPE LOCK
The SPECIAL RECESSED FEATURE of this new flush-type lock permits building the vehicle to the GREATEST LEGAL WIDTH for MAXIMUM CARGO SPACE, on side door installations.
The new (E) No. 5660 lock embodies all the excellent features of the popular
"Clamptite" and Eber-"Grip"-Hard locks used to great advantage by body builders everywhere. Built for long service life with smooth, positive cam-closing action. Thumb-trigger release contains hole for padlock and seal. Furnished in right and left hand models.
Write for CATALOG and Full Particulars
EBERHARD Long Run
TRUCK BODY FITTINGS
E
EBERHARD MANUFACTURING CO.
Division of the Eastern Malleable Iron Co.
EVARTS AVENUE
CLEVELAND, OHIO

Spector Gets Mobilvans

First in a fleet of "Mobilvans" have just been delivered to Spector Freight System, Inc., Chicago, Ill. Just announced this spring (Mar., page 100) it is known as the Fruehauf-Clark Mobilvan, a versatile mobile dry-freight container to develop the shuttling system to its maximum efficiency. Spector has ordered 32 of these units, comprising chassis, extruded post aluminum containers and platforms. These units will be used for over-the-highway operation in a truck-trailer combination consisting of a White 3000 and a Fruehauf four-wheeler each carrying one of the Mobilvan boxes. These boxes will also be used in rail service in coordinated "box-back" operation. The trailer chassis are so designed that platforms may be mounted on them when they are not being used in van service. These units are loaded and unloaded by means of a heavy-duty fork loading device, designed by the Clark Equipment Co., to handle this type of loading. The boxes are secured to either flat car or trailer by means of a Mobilock latching mechanism which can be automatically operated by the heavy-duty fork loader both for securing and removing the box. The units to be operated by Spector include boxes 21 ft 6 in. long, with a capacity of 1330 cu ft per box. For further details, circle P 35 on the postcard on page 84.

December News Roundup

Continued from Page 154

N. C. Purdie Corp., Stanley, N. Y.—to 27 drivers. Total record is 178 years without a chargeable accident, and seven of the drivers have 10-year individual records.

Royal Transit, Milwaukee, Wis.—to 92 drivers. The total record represents 563 years of truck driving without a chargeable accident.

Consolidated Freightways, Portland, Ore., reports that 49 drivers at its Missoula, Mont., terminal and 72 drivers at its Minneapolis, Minn., terminal have completed a third million miles without an accident. Best consecutive record in Consolidated's "Million Mile Club" is held by the Dickinson, N. D., terminal with 2½ million miles without chargeable accident.

Fruehauf-Carter Trailer Co., Nashville, Tenn., has presented to the Safety Education Division, Tennessee Dept. of Safety, a trailer to be used to transport safety exhibits and displays to be used at schools and fairs in the state.

Blackhawk Mfg. Co., Milwaukee, Wis., has sold its "Blackhawk" hand tool line to **New Britain Machine Co.,** New Britain, Conn. Blackhawk will concentrate in fields of hydraulic equipment and lifting products.

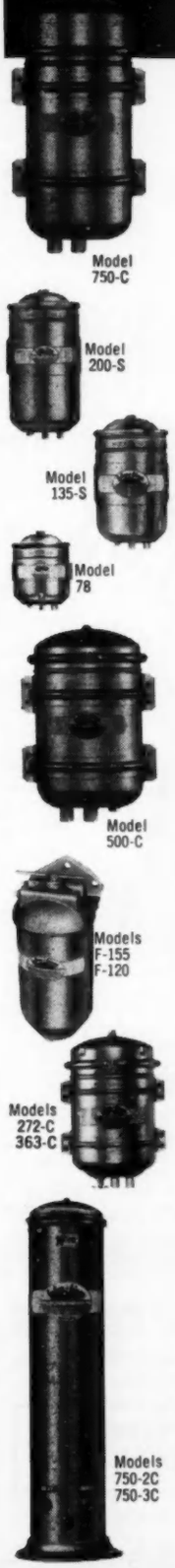
R. E. Dietz Co., Syracuse, N. Y., announces appointment of **John T. Scanlon & Associates,** Fairview Park, Ohio (Kentucky, West Virginia and Ohio) and **Aaron & Bell,** Atlanta, Ga. (Virginia, North and South Carolina) as sales representatives for its line of automotive lighting equipment.

Kelsey-Hayes Wheel Co., Detroit, announces that **Steel Products Engineering Co.,** Springfield, Ohio, has merged with Kelsey-Hayes.

Simonds Saw and Steel Co., Fitchburg, Mass., announces it is furnishing a complete line of files including American pattern files and rasps, Swiss pattern files, milled curved-tooth files and holders and rotary files and burrs.

(TURN TO NEXT PAGE, PLEASE)

THERE'S A LUBER-FINER MODEL FOR EVERY TYPE OF ENGINE FOR EVERY TYPE OF OIL!



ONLY A GENUINE Luber-finer PLUS A GENUINE LUBER-FINER PACK

CAN GIVE THE EXCLUSIVE PATENTED FILTERING PROCESS THAT HAS MADE LUBER-FINER THE Standard Of The Industry Since 1936

MODELS 78, 135-S, 200-S, featuring single-bolt lid, screw-in type pack, and overall compact design for use where space is limited. These Models provide the ultimate in filtration for passenger cars, small trucks and tractors, and other similar engines up to 5-quart, 6-quart, and 7-quart crankcase capacities.

MODELS 272-C and 363-C, featuring the Luber-finer single-bolt lid clamp, O-Ring lid gasket, screw-in type pack, and rugged construction throughout. Designed for heavy-duty service on gas, gasoline or diesel engines up to 3-gallon and 4-gallon crankcase capacities.

MODELS 500-C and 750-C, featuring the Luber-finer single-bolt lid clamp O-Ring lid gasket, large-capacity packs, and extra rugged construction to withstand the most severe service. Designed for use on gas, gasoline or diesel engines up to 5-gallon and 8-gallon crankcase capacities. Also widely used on fuel lines, hydraulic oil systems, and many other industrial applications.

MODELS 750-2C & 750-3C, featuring the Luber-finer single-bolt lid clamp, O-Ring lid gasket, and multiple packs for extra large capacity. Available with either wall or floor mounts for industrial use on engines up to 35-gallon sump, fuel lines up to 15 GPM, hydraulic oil systems up to 450 gals. For larger capacities, two or more Units can be connected in parallel.

MODELS F-120 and F-155, for gasoline and diesel fuel lines on mobile, stationary, or marine applications. Extremely efficient in removing impurities and contaminants from fuel. Single Units will handle flow rates from 0.5 to 1.0 GPM on suction or gravity flow. For larger capacities, connect two or more Units in parallel, or install on pressure-side of fuel pump.

GENUINE LUBER-FINER PACKS available in two types...

DIESELPAK — Expressly designed and recommended for use with all detergent-type compounded oils. Has the abilily to remove the most finely dispersed contaminants without removing or affecting the additives.

REFINING PACK — For use on straight mineral oil, synthetic oils, diesel fuel oil, hydraulic fluids, etc.

★ **THERE IS A GENUINE LUBER-FINER MODEL FOR PASSENGER CARS, TRUCKS, TRACTORS, STATIONARY AND MARINE ENGINES, HYDRAULIC OIL SYSTEMS AND MANY INDUSTRIAL APPLICATIONS.**

WRITE FOR COMPLETE INFORMATION TO DEPT. 12

LUBER-FINER, INC. 2514 S. Grand Ave., Los Angeles 7, Calif

December News Roundup

Continued from Page 159

Oster Mfg. Co., Cleveland, Ohio, announces it will market a line of multi-purpose, hand-propelled, hand and battery-operated portable lifts with capacities up to 2000 lb.

Ford Motor Co., Dearborn, Mich., announces it will open a new test base near Pike's Peak, Colo., for high altitude and mountain grade research and testing. Headquarters will be in Colorado Springs.

Currier Co., Oakland, Cal., announces a policy of free repair of Dee Tee degreaser guns. User simply certifies that he is now using Dee Tee safety solvent exclusively and equipment is repaired without cost.

International Harvester Co., Chicago, announces production of the 2,000,000th truck engine to be produced at its Indianapolis, Ind., engine plant. It was a Royal Red Diamond 501, 211-hp.

ANNOUNCING!

NEW-- just off the press—more complete than ever before — streamlined to reflect its contents—this Hansen Catalog is now ready. Contains an extensive line of modern commercial body hardware—with many *NEW products added!*

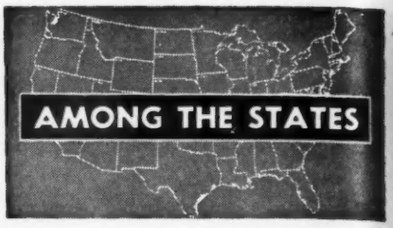
New 1-2-3-Point Locks—new aluminum leaf-type and square-corner hinges—new sliding door locks with double locking bolts—new window regulators for sliding doors — new curved inside handles—new curved "T" handles—new flush handles—new locks with remote bushing for use with flush handles—and many other products of advanced and improved design.

Easy, ready reference—alphabetical and numerical index — Cercla spiral binding to permit opening flat—attractive brown cover embossed in colors — are among the features of this new catalog.

SEND FOR YOUR COPY!

A. L. HANSEN MFG. CO. 5047 RAVENSWOOD AVE. CHICAGO 40, ILL.

SEND FOR YOUR COPY — JUST OFF THE PRESS!



Ohio—A state Court of Appeals has upheld the right of the state to cancel vehicle license reciprocity pacts with other states. The action was based on efforts by Ohio to cancel reciprocity pacts with other states that barred collection of Ohio's axle-mile tax. The decision permits the state to proceed with negotiation of new pacts providing for collection of the axle-mile tax. Chances are truck operators will appeal the decision to the Ohio Supreme Court.

Michigan—Sale or installation of safety belts not meeting standards set by Commissioner of State Police is forbidden (H5X).

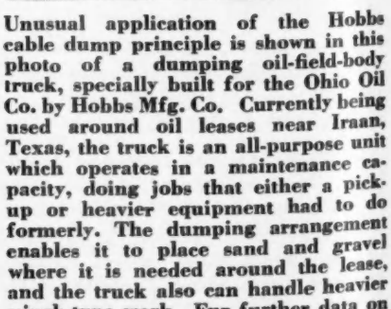
Missouri—The state is reported to require Ohio based trucks with three axles or more to purchase Missouri license plates.

Wisconsin—Urban passenger buses operated in or between counties of 500,000 and counties contiguous thereto are permitted a width of 104 in. Interurban buses in such counties may be 102 in. wide on highways 22 ft or more wide (S643).

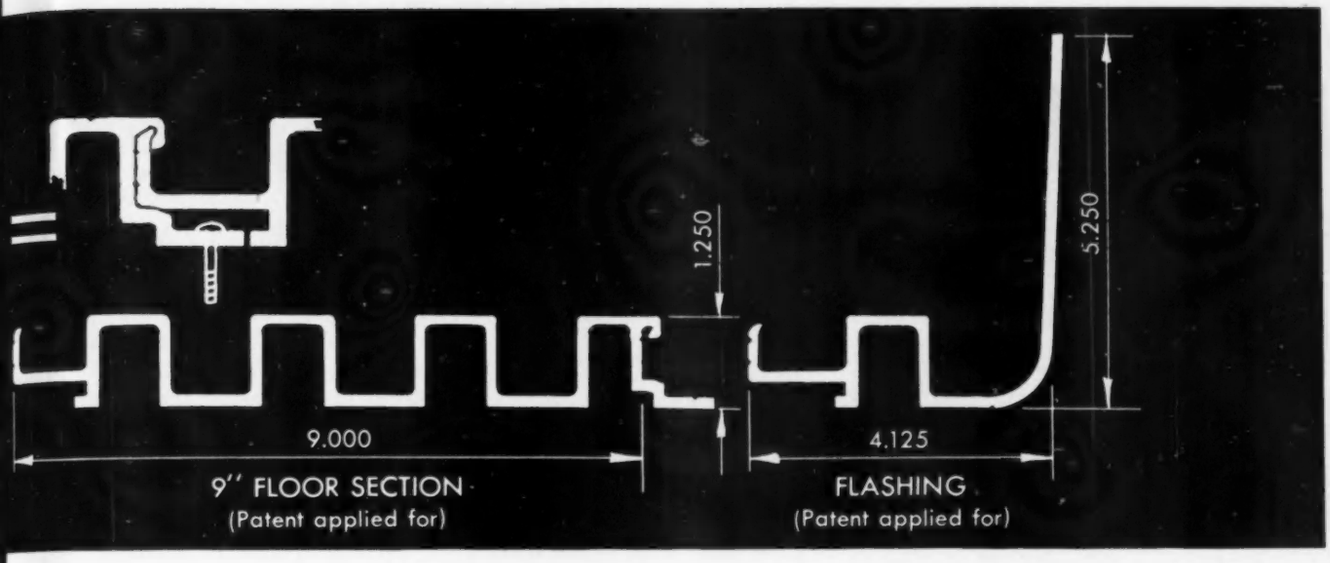
END

Please Resume Reading Page 106

Hobbs' Cable Dump



Unusual application of the Hobbs cable dump principle is shown in this photo of a dumping oil-field-body truck, specially built for the Ohio Oil Co. by Hobbs Mfg. Co. Currently being used around oil leases near Iraan, Texas, the truck is an all-purpose unit which operates in a maintenance capacity, doing jobs that either a pick-up or heavier equipment had to do formerly. The dumping arrangement enables it to place sand and gravel where it is needed around the lease, and the truck also can handle heavier winch-type work. Fur further data on how this might work for you, circle P 37 on the postcard on page 84.



Revere Aluminum Reefer Floor Sections

WATERTIGHT CONSTRUCTION. In the drawings above, you will see why, with proper installation and use of mastic, floors made of new Revere Aluminum Reefer Floor Sections are watertight. Notice where the unique locking arrangement is located . . . how the extrusions interlock in *two* directions, providing greater strength. Notice, too, that in Revere's design there are no boltholes through which water can leak. (And since bolts are hidden they can't create unsanitary areas or interfere with loading and unloading.)

EASY-TO-INSTALL AND DISASSEMBLE. New Revere Aluminum Reefer Floor Sections are easy to lock and fasten in place, or take apart and reassemble. Revere's locking arrangement and design allow you to bolt floor sections to subframe without going through floor from inside of body. Bolts do *not* require countersinking. Saves time, saves effort, saves money.

A special feature is Revere's unique center locking strip. It is installed on centerline of body and sections interlocked with it in both directions toward the sides. No need to remove whole floor if accidents cause damage. You can take up only that half of floor upon which repairs must be made.

CLEAN, SANITARY. New Revere Aluminum Reefer Floor Sections allow for air circulation and drainage . . . help keep perishables from spoiling. Floor can't rust or absorb moisture. And you can wash it down in minutes.

SAFE, STRONG, LIGHT. Lightweight Revere Aluminum Reefer Floor Sections have good resistance to denting and abrasion. They won't rot or splinter. And the weight they save may be converted into greater payload.

Revere carries limited stocks of floor sections in 32′, 34′ and 35′ lengths.

Write today for FREE SAMPLE of Revere Aluminum Reefer Floor Sections!

Revere will gladly send you a free sample of the new Reefer Floor Sections. See for yourself how unique interlock provides watertight floor, easy installation. Write today on company letterhead to address below.

Want more information on these and additional body shapes—flooring, structural or others? Get the full story from your body builder or nearest Revere Sales Office. Just call or write.

Dry Freight Floors Also Available!

Special locking arrangement and design of new Revere Aluminum Dry Freight Floor Sections provides watertight floor . . . stronger load-bearing surface . . . important economies in installation. For full story, get in touch with your body builder or nearest Revere Sales Office.

COPPER ★ BRASS ★ 18 01 ★ REVERE ★ ALUMINUM

REVERE COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, N.Y. • *Sales Offices in Principal Cities*

We Rebuild *Any* Size Crankshaft ~~Good As~~ Better Than New

Our "ARCWELL"* process not only rebuilds worn crankshafts to exact factory specifications, but actually provides harder and longer-lasting journal surfaces than are supplied on new crankshafts. The new metal actually becomes part of the parent metal and is guaranteed never to flake off or loosen.

"ARCWELL" service costs considerably less than a replacement and will give better service. Send us a worn crankshaft or write for full information. Prompt service and satisfaction guaranteed.

Standard Crankshaft & Hydraulic Co., Inc.

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Phone: FR 6-2374—5-3469

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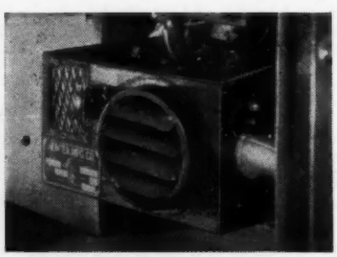
DESERVES THE BEST

HUNTER Gasoline-Burning Heaters
FOR GAS OR DIESEL RIGS



- Sure safe heat, thermostatically controlled
- Shirtsleeve warmth in coldest weather
- Sub-zero starting, unfailing combustion
- Conform to all ICC regulations
- Operate independent of vehicle engine
- Eliminate costly engine idling
- Economical, compact, easy to install

Write for descriptive literature, specifications, prices.

HUNTER MANUFACTURING CO.
1550 EAST 17th STREET, CLEVELAND 14, OHIO

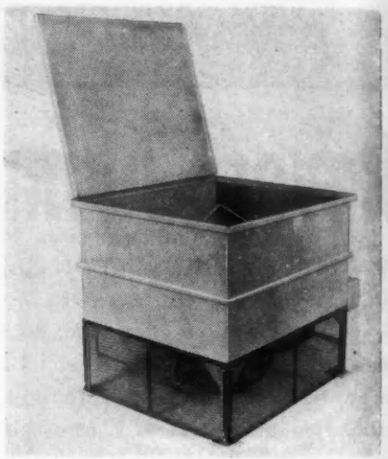
New Products

Continued from Page 85

ger and truck tires through 11.00 x 22, this new machine needs only a standard 110-volt outlet to operate.

P16. Cleaning Machine

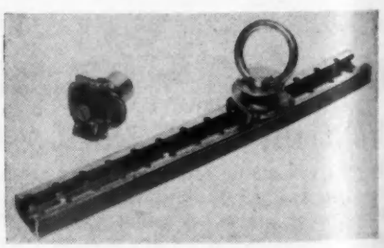
Storm-Vulcan, Inc., Dallas, Texas, is offering its Model No. 122 turbo-blast cleaning machine. Several small engine blocks or one large engine



block can be cleaned at one time. A special heating element increases cleaning efficiency and speed, while the actual cleaning is accomplished by impellers rotating at sufficient speed to create a brush-like cleaning by the solution.

P17. Cargo Tie-Down Track

Brown-Line Corp., Beverly Hills, Calif., announces a new cargo tie-down track and fittings for truck and trailer bodies. It is made of 75S-T



aluminum alloy capable of handling loads of over 5000 lb per fitting. A complete line of track component fittings such as freight tie down rings, strap fittings, shoring bars, nets, and second deck flooring attachments are available for the new track.

(TURN TO PAGE 168, PLEASE)

GIVE 52% LOWER COST PER MILE

"OUR EXPERIENCE WITH NYLON CORDS shows we'll get at least 195,000 miles of service from these tires—75,000 on original tread, plus another 40,000 miles on each of three retreads," reports Ray Groom (right), fleet superintendent of Carnation Company's Los Angeles Division.

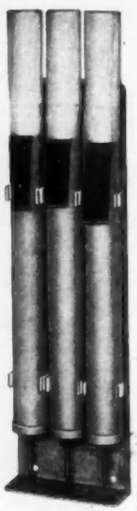
"With over 4,000 vehicles on the road, our company *has* to get good tire performance. We started using nylon cord tires in 1950, hauling dairy and cereal products throughout the United States and Canada. Since then, nylon cords have given us more original mileage and more retreads—reduced tire costs per mile 52%."

FOR DEPENDABILITY

Kilgore

"INTERNATIONAL"
AUTOMOTIVE

FUSEES



- Faster Starting
- Full Burning Time
- Brighter Red Color
- Heavy Water-Proofing
- Plastic Base Plug

For more than a quarter of a century Kilgore "International" has been the standard of quality for automotive and truck fusees. When you need a fusee you must have confidence that it will operate with maximum efficiency. That's Kilgore! Available with or without spikes, wire stands or cab bracket.

Approved by Underwriters' Laboratories, Meets Bureau of Explosive Specifications.

Kilgore INC.

Westerville, Ohio

New Products

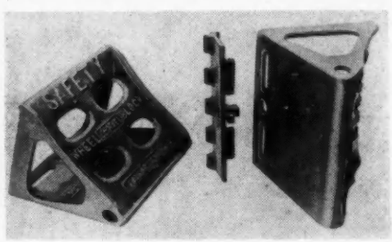
Continued from Page 164

P18. Pressure Gage

Tru-Flate, Inc., Oakland, Calif., has developed a full range, combination pressure tire gage and automatic inflator. This new gage consists of a one-piece replaceable valve cartridge, bayonet type indicator bar, and a heavy duty aluminum body.

P19. Wheel Chock

Calumet Steel Castings Corp., Hammond, Ind., announces an improved model "Casteel Utility" wheel block. Design affords stiffening members at the rear corners which serve as convenient handles as well. Curved face provides maximum contact with the tire and even distribution of the load. Integrally cast gripper teeth at the rear edge assure holding power on ice or snow. It is also listed with removable alloy steel heat-treated gripper teeth or calks to facilitate the replacement of worn teeth, and for use without teeth on asphalt or other soft paving.



P20. Truck Flare

U-C Lite Mfg. Co., Chicago, announces a new flashing flare beacon, Model No. 108-F. This new flare features a flashing bulb covered with a red Fresnel lens of molded plastic. A push-button switch starts and stops the light. Flare is powered by one

(TURN TO PAGE 170, PLEASE)

Look to LEE to Solve Your
TRUCK LIFTING PROBLEMS

The LEE Truck Lift
Operates anywhere air pressure is available • eliminates need for special pits • makes an ideal auxiliary hoist • NEW cutaway frame permits access to restricted front axle clearance.*

Own a LEE Truck Lift for only $16.46 a month after only $39.00 down. With Commercial Credit Corporation's time payment plan you can put your LEE to work right now.

Ask Your Jobber or Write:

AUTOMOTIVE EQUIPMENT MFG. CO. 11000 SO. ALAMEDA ST. LYNWOOD, CALIFORNIA

This durable, lightweight aluminum truck body has a 19 year record of increased profits for General Mills. Built by Brown Trailers, Inc., Spokane, Washington.

This 19-year-old aluminum body is now on its third truck!

Mr. J. B. Costello, General Traffic Manager, Sperry Operations, General Mills, Inc., San Francisco, California says:

"THIS aluminum body has certainly proved itself a bargain for lightness and durability.

"It is now on the third truck and has been giving dependable service for 19 years on more than 5000 trips.

"Aluminum's lightness provided a 1000-pound greater payload capacity. And multiplying this extra payload by the 5,000 trips shows that the aluminum body has saved us conservatively more than 75 cents per trip.

"Although the aluminum body costs $600 more than a comparable steel body it has, so far, saved us well over $4,000!"

Let a Kaiser Aluminum engineer show *you* how to get *long-lasting, economical operation* by switching to bodies built with light, strong Kaiser Aluminum. For immediate service, call the Kaiser Aluminum sales office listed in your telephone directory. Kaiser Aluminum and Chemical Sales, Inc., *General Sales Office*, Palmolive Building, Chicago 11, Illinois; *Executive Office*, Kaiser Building, Oakland 12, California.

Kaiser Aluminum

setting the pace—in growth, quality and service

AT LAST A NEW LIGHT

NOW - FIRST TIME

STORAGE BATTERY OPERATED

Fluorescent Lights ©T.C.

IN YOUR TRUCKS

Brilliant

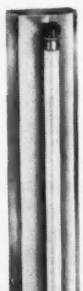
INTERIOR LIGHTING—for

Display, Delivery & Service Trucks

TERADO ROV-A-LITE ©T.C.

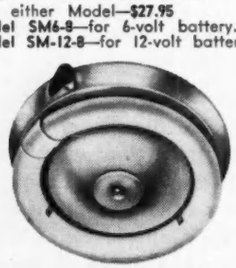
Extra Easy on battery

No battery worries. Takes only 1/3 as much current as incandescents. More brilliance. ROV-A-LITE operates from truck battery—anywhere you drive, or from regular A.C. Line. Saves time. Helps prevent mistakes in delivery.



Side Wall Fixture

Heavy chrome plated. 8 watts. Size 3"x10"x2½".
List, either Model—$24.95
Model M6-8—for 6-volt battery. Uses only 2½ amperes.
Model M12-8—for 12-volt battery. Uses only 1½ amperes.
Both Models available with A.C. receptacle for Electric Shaver.
List, either Model—$27.95
Model SM6-8—for 6-volt battery.
Model SM-12-8—for 12-volt battery.



Ceiling Fixture

Heavy chrome plated. 22 watts. Diameter 10", thickness 2½".
List, either Model—$34.95

Model M6-22 for 6-volt battery. Uses only 4½ amperes.

Model M-12-22 for 12-volt battery. Uses only 3 amperes.

Write for full details

TERADO Company

Designers and Mfrs. of Electronic Equipment Since 1927

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EXPORT SALES DIVISION: Scheel International, Inc., 4237 N. Lincoln Ave., Chicago 18, Ill., U. S. A. Cable Address—Harscheel

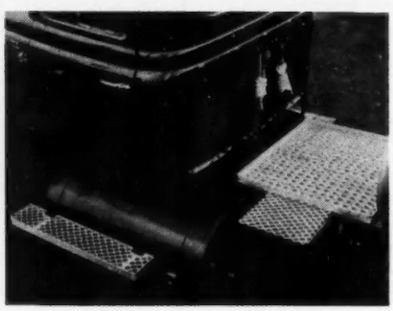
New Products

Continued from Page 168

standard 6-volt lantern battery housed in a waterproof steel case. Lenses are also available in blue, green, amber, and clear.

P21. Safety Grating

Bustin Firm Grip Grating Corp., Dover, N. J., announces the development of a new safe footing material



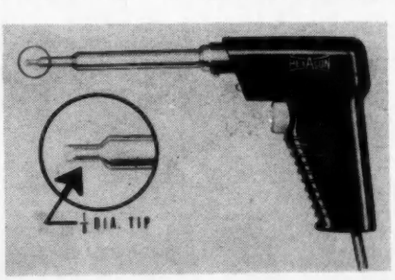
for application on running boards, 5th wheel dock boards, battery box or for body step or bumper.

P22. High Pressure Hose

Imperial Brass Mfg. Co., Chicago, announces a new line of "Hi-Duty" pressure hose and reusable couplings for use in making up hose assemblies for heavy duty applications. Included in the line are single wire braid, rubber covered hose; double wire braid, rubber covered hose; and single wire braid, cotton covered hose. Hose conforms to both SAE and JIC standards.

P23. Solder Gun

Hexacon Electric Co., Roselle Park, N. J., announces a new instant solder gun with ⅛-in. tip for the finest kind of soldering. The gun is soldering-



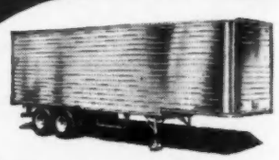
hot in a few seconds, without the use of transformer or thermostat. It weighs 8 oz. It has a long, thin reach for getting in tight places and an

(TURN TO PAGE 172, PLEASE)

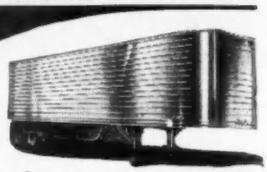
Andrews TRAILERS and TRUCK BODIES

LIGHT

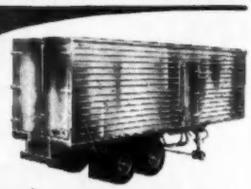
STRONG



Andrews "BIG MO"



Andrews ALL ALUMINUM



Andrews PAYLOADER

Andrews TRUCK BODIES

Andrews lightweight aluminum trailers and truck bodies can help you cut operating and maintenance costs. Their light weight insures heavier payloads. Their monocoque construction adds strength thru years of extra service. Prices on custom built units are no more than standard models of other makes.

Andrews

TRAILERS and TRUCK BODIES

P.O. Box 418 St. Louis, Mo.

It Costs No More To Give More— If You Give The Bonus In Savings Bonds!

If your company is one of the more than 45,000 companies that have the Payroll Savings Plan you *know* what your employees think of Savings Bonds – they spell it out for you every month in their Savings Bond allotments.

If you don't have the Payroll Savings Plan, and are wondering whether your people would like to receive their bonus in Bonds, here are a few significant facts:

–every month, *before they get their pay checks* or *envelopes*–8,500,000 men and women enrolled in the Payroll Savings Plan invest $160,000,000 in U. S. Savings Bonds.

–Payroll Savers hold their Bonds: From May 1, 1951, to September 30, 1955, approximately $18.7 billion E Bonds reached 10-year maturity dates. On September 30, 1955, approximately 70.3% of the matured bonds were retained by their owners under the automatic extension plan. With additional interest earned since maturity dates ($560 million), cash value of the matured bonds held by individuals amounts to approximately $13.7 billion.

–on September 30, 1955, the cash value of Series E and H Bonds–the kind sold only to individuals–totaled 39.7 billion dollars, a new high.

To the Payroll Saver, and to the man who buys his Bonds at a bank (because his company does not provide the Payroll Savings Plan) a One Hundred Dollar Savings Bond looks bigger and better and *is* bigger and better, than a check for $75. *Make this a merrier Christmas for every employee. Give the gift that keeps on giving.*

The United States Government does not pay for this advertising. The Treasury Department thanks, for their patriotic donation, the Advertising Council and

COMMERCIAL CAR JOURNAL

KEN-SPEED
DUAL-PURPOSE
BEAD EXPANDER
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Services **both** auto and truck tires! Every tire repair man needs this **powerful, positive, fast-acting** tool. Safer, easier to use. Built **extra strong** for longer life. You can't buy better . . . you can't afford less! For your protection, **insist on Ken T-130.**

WHY BUY TWO?
Ken - Speed Bead Expander is the **only** tool with the **extra** power to service both auto and truck tube less tires.

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IF IT'S A KEN, IT'S BETTER
See your automotive jobber

The KEN-TOOL Mfg. Co.
AKRON 5, OHIO

FRINK
SNO-PLOWS
REG. U.S. PAT. OFF.
Both "V" TYPE and ONE WAY BLADE TYPE
hand or power hydraulic control
FOR ALL MOTOR TRUCKS FROM 1½ to 10 TONS
FRINK SNO-PLOWS, INC., CLAYTON, 1000 Isl., N.Y.
FRINK SNO-PLOWS OF CAN. Ltd., TORONTO, ONT.

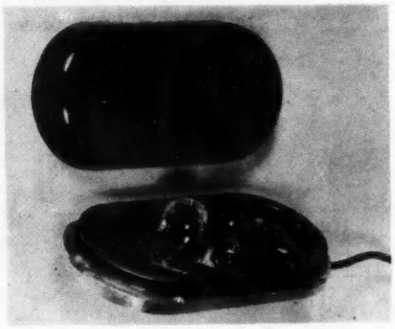
New Products

Continued from Page 170

effective spotlight. Rated at 150 watts and available for 120 volts, it operates on DC as well as AC, any cycle.

P24. Marker Light

R. E. Dietz Co., Syracuse, N. Y., is marketing a new two-bulb, single wire truck-trailer marker light. Known as the Model No. 59 clear-



ance-marker light, the unit is 15/16 in. in thickness. It is waterproof and dustproof. A rubber gasket, made of cellular neoprene rubber, fits snugly on the back. A neoprene O-ring keeps the lens snugly fitted to the lamp housing. The body is zinc die cast. The light exceeds SAE requirements.

P25. Lift Gate

Hi Tender Co., Leavenworth, Wash., is manufacturing a new electric tailgate engineered for small trucks up to 1½-ton capacity. It is

presently being manufactured in eight sizes to fit the beds of eight different standard trucks from the ½-ton pickup to the 1½-ton flatbed.

P26. Water Pump Lube

The Lubri-Loy Co., St. Louis, Mo., announces addition of a new water pump lubricant and cooling system conditioner to their line. The company states this product lubricates water pump bearings and seals, eliminates noise, reduces wear, prevents further rust and scale deposits, cleans up rusty water as the vehicle is driven, is easy to use, requiring no draining or flushing, and mixes readily with all types of anti-freeze in either hard or soft water.

P27. Spark Plug Sockets

P & C Tool Co., Portland, Ore., announces two new spark plug sockets with a special rubber insert for holding spark plugs. A patented butadiene ring inside the plug fits snugly over the top of the spark plug terminal, holds the plug securely, removes or installs the plug in hard-to-reach places on many V-8 overhead valve engines. Socket No. 3126 HP is for ⅜-in. drive and has 13/16-in. hex opening that turns 14 mm spark plugs. Socket No. 6126 HP has the

(TURN TO PAGE 177, PLEASE)

SNAP-ON TOOLS CORPORATION
8026-L 28th AVE. KENOSHA, WIS.

GALION
ALLSTEEL BODY CO.
GALION, OHIO
the sign of quality on
DUMP BODIES OF ALL TYPES
HYDRAULIC HOISTS
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PACKER-TYPE REFUSE BODIES
THE GALION ALLSTEEL BODY COMPANY • GALION, OHIO

W. G. B. makes OIL FILTERS
from
60 to 750 Cu. In. Capacity
. . . and Cartridges for all makes of Filters.
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W. G. B. OIL CLARIFIER, INC.
First By Test Since 1931 KINGSTON, N. Y.

INDUSTRIAL HOSE AND FITTINGS

Super resistance to abrasion and corrosion makes this hose excellent for railroads, road equipment, farm machinery, and materials handling equipment. High tensile strength single wire braid. Tough synthetic rubber cover. Working pressures to 2500 psi. Bulk hose and fittings . . . complete hose assemblies at your dealer.

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Dealerships open in some areas.

STRATOFLEX

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BRANCH PLANTS
LOS ANGELES AND TORONTO
SALES OFFICES
ATLANTA • CHICAGO • NEW YORK • SAN FRANCISCO
DAYTON • HOUSTON • KANSAS CITY • PORTLAND • TULSA
IN CANADA
STRATOFLEX OF CANADA, INC. TORONTO 18, ONTARIO

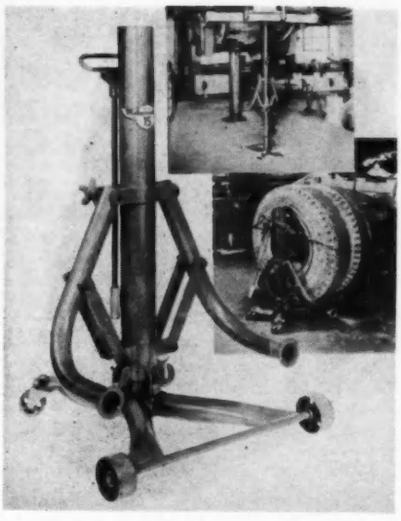
New Products

Continued from Page 172

same opening size but is for ½-in. drive. Both have a ¾-in. male plug at the top for turning with an open end or box wrench.

P28. Jack Accessories

Milwaukee Hydraulic Products Corp., Milwaukee, Wis., announces two new accessories for its twin-lift Model No. 15 2-ton hydraulic service



jack. The saddle extension is a 20-in post attachment fitting right on the load-carrying top cap of the jack. This attachment provides a lifting range from 58 to 81 in. The wheel dolly attachment makes it possible for one man to handle large single or dual wheels. The dolly sleeves simply slip on the lifting arms of the jack and are free to rotate on oilite bearings. This, and the hydraulic up and down movement, makes it easy to match up lug holes or keyways. A 10-ft chain is provided to hold wheels in an upright position while being moved.

P29. Starter Drive

Arrow Armatures Co., Boston, Mass., announces addition of rebuilt starter drives to its line of rebuilt automotive replacement parts. All three types of starter drives are included in the line: clutch type, screw type and barrel type. All are completely rebuilt with special attention given to the primary causes of trouble in each type.

END

Please Resume Reading Page 86

TRUCK MECHANICS • OWNERS

Set Valve Clearance *Exactly Right!* Every Time with

P&G Valve-Gapper

New Technique 100% Accurate

Now you can set valve clearance on most OHV gasoline and diesel truck engines uniformly and with micrometer accuracy instead of depending upon individual "feel".

Check these VALVE-GAPPER advantages:

- Reduces Valve Adjustment time as much as 50%.
- Eliminate Inaccuracies of Individual "Feel".
- No Change in Adjustment Procedure; ONLY Method of Measurement Differs.
- Serviceman can "SEE" Clearance on Dial Indicator BEFORE, DURING and AFTER adjustment.
- Both Hands FREE to Use Adjusting Tools.
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Models Available to fit these Truck Engines:
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BOTH HANDS FREE

Service man always has both hands free to use adjusting tools —he can "see" exact clearance before, during and after adjustment.

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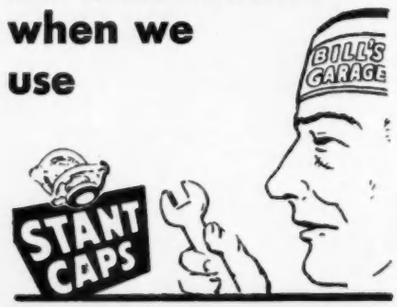

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Fleet Course Calendar

HERE is an up-to-date calendar of fleet training courses for 1956. For complete address to write to for further information about the courses listed, see the Fleet Course Directory appearing in the November issue, page 300.

Driver Trainer

Pennsylvania State University—Apr. 16-20, 1956.

Effective Fleet Operation

(Unless otherwise noted, these courses begin on the date given and meet once a week in the evening for 8-10 weeks.)

University of Mississippi—Feb. 7, 1956 (Jackson).
Northeastern University (Mass.)—Feb. 13-19, 1956 (Boston).
Purdue University (Ind.)—Feb. 1956 (Indianapolis); Mar. 1956 (South Bend).
Brown University (R.I.)—Mar. 6, 1956 (Providence).
Northwestern University (Ill.)—Mar. 20, 1956 (Evanston).
University of Wisconsin—Spring, 1956 (Milwaukee).
University of Tennessee—Spring, 1956 (Knoxville).
University of Akron (Ohio)—Spring, 1956 (Akron).
Southern Methodist University (Texas)—Spring, 1956 (Dallas).
University of Kansas—Spring, 1956 (Kansas City, Kan.).

Fleet Maintenance

University of Minnesota—Jan. 9-11, 1956.
Pennsylvania State University—Mar. 5-9, 1956.
University of California—Mar. 14-16, 1956 (Berkeley); Mar. 21-23 (Los Angeles).
University of Washington—Mar. 19-21, 1956.
Montana Motor Transport Assn.—Mar. 26-28, 1956.

Fleet Industrial Safety

Purdue University (Ind.)—Jan. 10-12, 1956.

Fleet Supervisor

University of Alabama—Jan. 23-27, 1956.
University of Oklahoma—Mar. 19-23, 1956.
University of Florida—Apr. 9-13, 1956.
University of Maryland—Apr. 9-13, 1956.
Northeastern University (Mass.)—Apr. 23-27, 1956.
University of Washington—April (Tentative).
Northwestern University (Ill.)—June 18-22, 1956.
University of Virginia—June 18-22, 1956.
Pennsylvania State University—Sept. 10-14, 1956.
Purdue University (Ind.)—Sept. 17-21, 1956.

Supervisor 2-Day Conference

University of California—Feb. 13-14, 1956 (Sacramento); Feb. 16-17, 1956 (Fresno); Feb. 20-21, 1956 (San Diego); Feb. 23-24, 1956 (Los Angeles); Mar. 12-13 (Berkeley).
Pennsylvania State University—May 10-11, 1956.

Motor Carrier Operation

Northeastern University (Mass.)—Begins Jan. 31, 1956 and meets once a week in the evening until June.

Terminal Management

University of Houston (Texas)—Spring, 1956 (Tentative).

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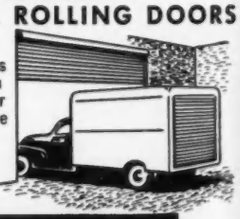
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